Appendix C

Public Meeting Summary Tables and Display Boards

Suncor Energy Cedar Point Wind Power Project
April 18 and 19, 2012 Public Meeting Comment Response Table

The following table summarizes the comments provided during and after (via the questionnaire and email) the April 18 and 19, 2012 Public Meetings for the Suncor Energy Cedar Point Wind Project (the Project). Responses to these questions are being provided based on the status of the Project at the time of the release of the updated Draft Project Description Report (July 2012). The number in the bracket beside each theme indicates the number of similar comments received.

Theme	Comment	Response
Cost (7)	Would capital investment be better spent on natural gas fired cogeneration units vs. wind?	We believe there is plenty of room for new forms of energy using various means of production such as hydro, solar, wind, biomass, nuclear and others. A diversity of generation, many of which have the added benefit of helping to reduce greenhouse gasses is required for optimal and reliable operation of the electrical grid. In terms of renewable energy, Suncor has chosen to invest in wind energy and ethanol as described in our annual reports and Report on Sustainability issued every year.

<table>
<tr><th>Theme</th><th>Comment</th><th>Response</th></tr>
<tr><td></td><td>Huge cost to rural Ontario. What is the cost compared to existing solar and non-renewable? Who pays the difference?</td><td>New power plants are required to meet the increasing demand for electricity and to replace aging power plants. It is unfair to compare the costs of new power generation to existing power plants. In order to make a fair comparison, we prefer to compare the costs of new power from various types of power plants and develop the least costly.

The Feed in Tariff (FIT) contract awarded to Suncor for wind energy (not solar) would pay 13.5 cents/kWh for generation from this wind power project. The contract has a term of 20 years. This price is above the current summer 2012 Regulated Price Plan (RPP) time of use rates below:

<table><tr><td>On-Peak</td><td>11.7 cents/kWh</td></tr><tr><td>Mid-Peak</td><td>10.0 cents/kWh</td></tr><tr><td>Off-Peak</td><td>6.5 cents/kWh</td></tr></table>
A portion of the RPP time of use rate is collected from all RPP smart meter customers and is used to pay generators.

The FIT contract rate was set by the government to attract investment in Ontario and produce jobs for Ontarians.</td></tr>
<tr><td></td><td>Why is Ontario paying hydro developers more for hydro than it sells it for to the USA and Quebec?</td><td>Most electrical generators in Ontario are paid a regulated or a contracted rate. These rates are constant for a specified term.

The electricity market in North America including Ontario is settled and balanced every five minutes. This includes settlements with adjacent provinces or states.</td></tr>
</table>

Theme	Comment	Response
		The price paid for imported/exported electricity from the USA or Quebec fluctuates with market demand. Sometimes the price paid is lower and sometimes it is higher.
	No mention at the public meeting of global adjustment added to small business hydro bills driving them out of business.	The Global Adjustment charge is principally the share of the difference between regulated and contract prices for electricity paid to certain generators and the market prices they would have received had they not been subject to regulation or contracts. It can be a charge or a credit. The Independent System Operator's website identifies that Global Adjustment is determined from the following: • Contracts for generators including non-utility generators (NUG) administered by the Ontario Electricity Financial Corporation, • Ontario Power Generation's nuclear and baseload hydroelectric generation, • Ontario Power Authority contracts with generators and suppliers of conservation services. Suncor has no control over the global adjustment administered by the Independent Electrical System Operator. We do recognize, however, that this charge has resulted in increases in overall energy costs for all consumers, small and large, industrial and residential.
Decommissioning (4)	What happens to the turbines when the lifespan is over?	At the end of a wind turbine's life, it would be dismantled and portions would be recycled. In general, the physical works involved in dismantling a project infrastructure follow the reverse procedures and practices required for their

Theme	Comment	Response
		construction. As required by the Ministry of the Environment, a decommissioning plan will be included in the Renewable Energy Approval (REA) application which will be publically available. This plan will outline our commitment to decommission the project.
	Suncor should be required to place a $200,000/turbine deposit to ensure turbines are decommissioned.	Suncor, as the owner of the proposed wind power project, is responsible for the decommissioning of the Project including the cost of component removal. Suncor is committed to returning the site to a safe and clean condition after decommissioning of the Project in accordance with Ministry of the Environment and Ministry of Natural Resources requirements.
Support (2)	No objections to this Project. The benefits are very important and the opposition is typically overestimated by a vocal minority of people.	Thank you for your comments. We appreciate all input received through the public consultation process and want to understand all points of view to build the best project possible.
Health (18)	Please provide health impact studies that have been done over 3-5 and 10 year periods. Why is the government/Suncor/industry not providing the health studies and safety studies that are available in Europe? Why would so many doctors speak out against wind turbines based on complaints of patients, putting their reputations on the line and risking severe scrutiny, by the general population, if there wasn't something to these claims?	In "The Potential Health Impact of Wind Turbines" (May 2010), Ontario's Chief Medical Officer of Health examined the scientific literature, including studies from Europe, related to wind turbines and public health, considering potential effects, such as dizziness, headaches, and sleep disturbance. The report concluded that: *"…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*

Theme	Comment	Response
		annoying". The report also concluded that 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. Health Canada, in collaboration with Statistics Canada, recently announced that it will conduct a research study to explore the relationship between wind turbine noise and health effects reported by, and objectively measured in, people living near wind power developments. Suncor is supportive of additional peer reviewed scientific studies on the topic. Suncor is committed to improving our best practices of wind power project design and operation as these studies draw conclusions on the topic.
	Turbines are unhealthy. Expect full compensation for impact on health if this project proceeds. What health provisions will be put in place to compensate victims 40 years from now when sufficient data shows health consequences are real?	Suncor has been part of the Canadian wind industry for more than 10 years and continues to monitor studies and scientific information related to health effects and wind power projects. The Ontario Chief Medical Officer's report recently concluded that low frequency sound and infrasound from current generation upwind model turbines are well below the pressure sound levels at which known health effects occur. Suncor is committed to working with all stakeholder groups and regulators to minimize the impacts of our activities. We make the best decisions we can with the information

Theme	Comment	Response
		available and are constantly monitoring scientific and technological research to support our operations.
	How will you ensure that there is no "dirty power" or stray voltage resulting from the project? What studies have been done or what protective measures will be put in place to examine electromagnetic frequencies radiating from turbines, step up transformers, underground carriers, substation and transmission lines?	There are three distinct topics mentioned here: stray voltage, “dirty power” and electromagnetic fields. These terms are often confused with one another. The term stray – or ‘tingle’ voltage – refers to a low-level electrical current or shock (typically under 10 volts) that results primarily from an improperly grounded or, in some cases an underground, electrical distribution system. Stray voltage can be found in any electrical system and is strictly a power distribution issue – improper grounding causes low voltage current to travel along a neutral wire. An electrical wiring system (such as the one that is proposed for the Project) is grounded in order to keep potential voltage differences between the neutral wire and the ground, below levels that could be considered harmful. Suncor is required to purchase equipment and install electrical components as the Electrical Code and approved by the Electrical Safety Association significantly reducing the risk of stray voltage. Suncor’s primary focus is safety and as such carries out its operations in a reasonable and prudent manner in order to ensure compliance with all applicable regulatory guidelines. “Dirty Power” is typically a term for power that does not meet the minimum standards required by the local grid. There are specific requirements to minimize harmonics from generating equipment and manufacturers of the equipment must certify the equipment prior to Suncor purchasing it and using it.

Theme	Comment	Response
		Electromagnetic Fields can be generated by any rotating generator or wire with current running through it, including many household appliances (ie. cell phones, computers, and refrigerators.) Suncor is committed to regulatory compliance and infrastructure would be built according to the codes set by the Ontario Energy Board.
	What is the health impact of sustained low frequency noise on humans, wildlife? Would like to see the studies that show there is no impact on health due to low, sustained sound made by turbines.	The report by the Ontario Medical Officer of Health entitled "The Potential Health Impact of Wind Turbines" (May 2010) concluded that low frequency sound and infrasound from current generation upwind model turbines are well below the pressure sound levels at which known [human] health effects occur. An Environmental Noise Impact Assessment (ENIA) will be prepared for the Project in accordance with the rules established within Ontario Regulation 359/09.
	What studies have been done on subsonic vibrations?	Subsonic vibrations have frequencies lower than 20 Hz and cannot be perceived by the human ear. There is no scientific evidence to date that vibration from low frequency wind turbine noise causes adverse health effects. In addition, a study of low frequency noise and vibration at a modern wind power project determined that vibration is 1/5th to 1/100th of the limit of human perception within 25 m of the turbine base (Legerton et al., 1996).
	The proposed transmission line begins at Thompson Line and Northville Road in Lambton	Distribution and transmission lines are not new to the Province. All new electrical infrastructure in the Province is

Theme	Comment	Response
	Shores. Big concern about the children's school (which is also at that corner) and about the health effects on the kids or if they will just end up closing down the school.	required to be designed and constructed to all applicable codes and regulations. The distance from Thompson Line to the closest property limit of the Bosanquet Central Public School is greater than 400 metres. At this distance no potential impacts are expected.
	It is unethical in your engineering if you use ISO 9613-1 9613-2 to calculate noise at sensitive receptors. These standards are INVALID if noise is more than 30 m above receptors.	We appreciate your feedback. An Environmental Noise Impact Assessment (ENIA) will be prepared for the Project in accordance with the rules established within Ontario Regulation 359/09. This engineering model is an internationally accepted standard for this type of modeling and is the method the Ontario Government has adopted.
	Concerned about the effect of shadow flicker and light pollution.	Suncor will implement best practices as identified by CanWEA to minimize the potential of these effects. Federal regulations set by Transport Canada require that all wind projects have navigation lighting to ensure the safety of aircraft in the area. Suncor will work with Transport Canada to reduce annoyance to the community while still meeting all regulatory requirements.
Property Values (2)	This project will ruin property values. Expecting full compensation for property value loss if this project proceeds. You are dealing with property owners that have invested in lakefront property. This will depreciate and cause annoyances to the community at large. We have lived in this community our whole lives and do not want to see the whole landscape destroyed by these windmills.	We have heard from a number of people in this community that their property values are very important to them and they don't want the value of their homes and quality of their lives to be impacted by this project. There are conflicting views on the effects of wind power projects on property value. To date, Suncor has not seen any studies that have shown long term decreases in property values. However, we are

Theme	Comment	Response
		aware of the following three studies. Two recent studies conducted in southern Ontario (Municipality of Chatham-Kent (2010) and Township of Melancthon, Township of East Luther Grand Valley and County of Dufferin (2006)) both indicate that there was no decrease in the property value due to the construction of wind power projects in the area. In addition, REMAX Market Trends Farm Edition 2011, indicated significant increases in the price of farmland from 2010 values across Ontario. The report also mentioned that additional sources of income from solar panels, windmills and gas leases can potentially net the average farm additional income above and beyond crop value on their land, which in part, has contributed to increases in farmland prices.
	Prime farmland is being destroyed.	The Project is being designed to minimize effects on farm activities. Normal farming practices are permitted adjacent to the project infrastructure; however sensitive project components will be signed and/or fenced for safety reasons. The underground electrical collection system that is required will be at a depth that will not affect ploughing, tilling or planting.
Opposition (18)	Don't want turbines in the local area. Suncor does not listen to residents who don't want this Project.	Stakeholder consultation is a significant component of any project. As part of our consultation process, Suncor seeks feedback from the community and will incorporate this feedback into the Project design where applicable, appropriate and possible. The intent of the Public Open

Theme	Comment	Response
		Houses is to provide a summary of the findings of the Draft Project Description Report (PDR); ask for input from stakeholders, and address any questions or concerns related to the report or the Project in general. Suncor will continue to consult with stakeholders regarding the Project over the course of the Renewable Energy Approval (REA) process and will document this information as part of our submission to the Ministry of the Environment.
Technology (2)	Why this type/size of turbine - there are smaller ones that run on a different axis. What is the life expectancy of a turbine?	A turbine manufacturer has not yet been selected for the Project; however the size of a typical turbine is included in the Draft Project Description Report. To date horizontal axis wind turbines have shown to be the most efficient at converting energy from wind. The typical life expectancy of a typical wind turbine is 25 to 30 years.
	How much fossil fuel is used creating one turbine from beginning to end and how many years of wind (including electricity it takes to run them) to compensate for the manufacturing?	We are aware of the following study related to carbon intensity and fossil fuels by Benjamin K. Sovacool. ("Valuing the greenhouse gas emissions from nuclear power: A critical survey." Energy Policy, Vol. 36, 2008, p. 2950.) This study found the carbon intensity for a wind turbine on a life cycle analysis was determined to produce 10 g CO2/kWh. This same study found nuclear to produce 66 g CO2/kWh, and natural gas to produce 443 g CO2/kWh and Coal (with scrubbing technology) to produce 960 g CO2/kWh.
	All green energy has to be backed by equal	It is expected that wind energy will become an increasingly

Theme	Comment	Response
	amount of fossil fuel energy - OPG over producing up to 2,000 MW per day - why produce more? Several local citizens were told they could not hook their solar panels to the grid to sell their excess power.	significant component of the power supply mix for Ontario. All variable generation needs to have other generation available when it cannot produce. This backup power does not necessarily need to use fossil fuels. Hydro and potentially nuclear could also be utilized in addition to coal and natural gas. We are not able to comment on reasons why small local solar producers would have been prevented from connecting to the grid. Suncor's proposed wind power project would be connected to the high voltage transmission lines where capacity is available for the project.
Tourism (2)	This project goes right along Lakeshore Road - a major tourist area. What studies have been done on effects on tourism?	According to information provided by our industry association, CanWEA, "Wind projects are objects of fascination for many and, as such, can generate tourism for the local community. Some wind projects get thousands of visits a year and the benefits of that amount of visitors to a community can be felt by many businesses including shops, restaurants and hotels and motels." Renewable energy projects can be marketed as a tourism feature which can result in additional economic benefits to the local community.
Land use (2)	What studies have been done on loss of crop yields?	To our knowledge, no scientifically reviewed information has been made available identifying loss of crop yields as a result of nearby wind turbine operation. Suncor has met with each landowner who may have

Theme	Comment	Response
		infrastructure on their property and discussed how our infrastructure can coexist on their property to reduce impacts to their agricultural practices.
Setback (5)	Turbines should be back at least 2 km from major roads. Requests that Suncor honour the townships request to set back the turbines from the most densely populated areas. Please consider a 2 km setback from Lakeshore Road.	According to current regulatory requirements, wind turbines can be located a minimum distance of blade tip + 10 m (approximately 66.5 m) from road rights-of-way. Furthermore, most highly travelled roads also have homes located along them which have a minimum setback of 550 m. Vacant lots are also treated as if a home is located on them near the road. This effectively will ensure that virtually all wind turbines associated with the Project are at least 550 m from most highly traveled roads. We are aware of the 2km setback requested by the municipality of Plympton-Wyoming. We have always indicated our willingness to discuss this with the town; however at this time a 2km setback is neither part of the government regulations nor our contract with the Ontario Power Authority.
	Why are you locating within 100-200 m of property lines when Vestas recommends a 400 m "no go" area around turbines?	According to current regulatory requirements, wind turbines can be permitted less than 200 metres from property lines. We are not aware of any Vestas recommendations around turbines. Please send this documentation to our project email address cedarpoint@suncor.com.
Location (3)	How close will the turbines be to our waterfront? To allow for existing and future development for	Suncor is aware of the potential for urban expansion typically along the lake shore and around existing

Theme	Comment	Response
	residential use, the location of these towers must be properly set back from Lake Huron - 2 km minimum!	communities. As such, Suncor will design the wind power project considering the setback shown at our public open house #1. This can be found on our website by clicking the link "Cedar Point Open House Display Boards" and is on page 10 of that document.
Natural Environment (9)	Concerned about bird migration. What studies have been done on migratory species such as tundra swans that lead into Grand Bend each year? We live amongst the migration path of approx. 100,000 swans. How will this affect the tundra swans which nest and travel on/in our area? Birds flying into the turbines are slaughtered?	As with all structures, there are encounters with birds. The Project is subject to bird mortality thresholds that have been developed by the Ministry of Natural Resources (MNR) to ensure the protection of population levels. Studies will be completed to document baseline environmental conditions including information related to migratory birds. Results will be included in the Natural Heritage Assessment. If mortality exceeds the thresholds set out by the MNR, additional mitigation and contingency measures are required to be implemented which can include operational controls such as turbine shutdown. Suncor will continue to work with the MNR to develop an appropriate field work program for studying species at risk within the project area. If necessary, Suncor will work with the Ministry for mitigation and/or net benefits options.
	Bats that devour thousands of our mosquitoes each year are drastically reduced in the area of wind turbines.	Bat mortality rates at wind facilities are highly variable among regions. Some species of migratory bats are particularly vulnerable, and mortality peaks during the late summer and early fall migration.

Theme	Comment	Response
		The Ministry of Natural Resources (MNR) has produced detailed and prescriptive guidelines for post-construction monitoring of bat mortality, and mandatory mitigation requirements for facilities with high bat mortality. If there are significant effects as a result of project operation, the MNR has a process to address the effects including post-construction monitoring and contingency planning which can include operational controls during specific times of the year.
	What studies have been done on earthworms? Learned from a local farmer that the land he already has a turbine on is losing the earthworms on that land due to the vibration - his crops are not producing, he has been losing money ever since putting it up and says it's the worst thing he has ever done and not worth the money!	No scientifically reviewed information has been made available identifying impacts to earthworm populations as a result of wind turbine operation. Suncor has constructed and operated wind power projects for 10 years and landowners have not experienced loss of yield attributed to the operation of wind turbines.
	How will this affect wildlife (doing a 2 year study from a 3rd party is not acceptable)? We recognize MOE is working with the government in turn holding hands with Suncor. Requests more wildlife studies.	Stantec Consulting Ltd., an independent third party, will evaluate the potential environmental effects of the Project including potential effects to wildlife. These studies will be completed in accordance with Ministry of Natural Resources and Ministry of the Environment guidelines. Based on their studies, and in accordance with the requirements of the Ministry of Natural Resources, they will propose mitigation and contingency measures to minimize and/or eliminate potential effects.
Proponent (2)	Is this the same Suncor that plead guilty to price fixing gasoline in Ontario? Is this the same Suncor that was convicted of fixing electricity pricing in Alberta?	Yes to the first question. No to the second question. Regarding the first question - in April 2012, Suncor Energy Products Inc. (Sunoco) consented to a fine for non-

Theme	Comment	Response
		compliance under the Competition Act as a result of certain isolated business communications involving its Sunoco branded gas station in the area of Belleville, Ontario in 2007. Immediately upon being advised of the Competition Bureau's investigation, Sunoco ensured that no further pricing-related communications occurred. In addition, Sunoco engaged in further competition training beyond that already provided, to all relevant Sunoco personnel. Regarding the second question, Suncor is committed to its strong relationship with the Alberta Electric System Operator (AESO) and had no involvement with the recent price manipulation that made news headlines in November, 2011. It was another electric energy company that was charged.
	How much profit will Suncor anticipate making on every operational wind turbine now and 20 years from now (projections)?	There are many variables that affect profit on wind power projects. Information regarding Suncor's business progress (including revenues) on operating assets can be reviewed in the Quarterly and Annual Reports, as well as the annual Report on Sustainability available on Suncor's website (www.Suncor.com). Suncor and the Ontario Power Authority signed a 20 year Power Purchase Agreement that offers a pricing schedule for electricity produced from wind power at $135 per megawatt hour.
	Farmers have been deceived, lied to and tricked into signing legal documents without proper legal support on their side.	Conducting its business according to the highest ethical standards is one of Suncor's core values, along with openly and transparently consulting with stakeholders on

Theme	Comment	Response
		all our projects. All employees are required to annually confirm their adherence to our Code of Conduct. The Landowners in Suncor's projects are considered valued stakeholders in our projects, and we hold their business acumen in the utmost regard.
Consultation (14)	To what extent do you plan to work with Plympton-Wyoming on the location of the turbines? Are you willing to improve your plan or negotiate a deal with township council? The process does not address local municipality by-laws. Why don't you build these things under the same set of rules that all other industries have to follow?	Suncor welcomes continued dialogue with the Township Council of Plympton-Wyoming whereby meaningful discussions can be held. Renewable energy projects within Ontario are bound by a common set of rules as established within Ontario Regulation 359/09. This ensures that a consistent set of rules that have been developed based on extensive research are applied to all Projects.
	A map with proposed sites should have been disclosed, this is keeping privileged information to yourselves. You need to be transparent.	At the time of the first public meeting, the locations of the proposed turbines had not yet been confirmed. Additional information critical to developing the Project layout was still being collected (such as baseline natural environment and archaeological/heritage resources). This baseline information can significantly impact the location of Project infrastructure and must be confirmed prior to releasing a layout. A map of the proposed turbine locations is now available on our website (www.suncor.com/cedarpointwind) and will be shared at our second open houses (August 21, 22 and 23).
	This meeting was not consultation; most answers that people were looking for were unknown. These sessions are a waste of time that are designed to make the government and Suncor feel good.	The format of the meeting provided stakeholders the opportunity to view project information (display boards) at their own pace, review existing literature, and ask project representatives specific questions on a one to one basis.

Theme	Comment	Response
	Suncor needs to have a "town hall style" meeting. The President and CEO (Steve Williams) of Suncor should be present.	It was also an opportunity for Suncor representatives to better understand the perspectives of our stakeholders so that their views are taken into consideration as we continue our project planning. We believe this approach leads to an effective way of communication between stakeholders and Project representatives. All comments and concerns received at the public meetings will continue to be recorded and will be included as part of Suncor's Renewable Energy Approval (REA) Application to the Ministry of the Environment.
	What native (Aboriginal) concerns have you addressed? Ancient burial grounds, etc. near our creeks, waterways.	Aboriginal engagement is an integral component of renewable energy development in the province and Suncor has already engaged in discussions with several Aboriginal communities regarding this Project. These discussions will be documented and submitted as part of the Renewable Energy Approval (REA) application to the Ministry of the Environment. Wherever infrastructure will be constructed an archaeological assessment will need to be completed to identify if these lands had any historic value. Suncor has commenced these archaeological studies in conjunction with the regulations set out by the Ministry of Culture and Sport. These reports will be made available to the public 60 days prior to the final public open house.
	Why did Suncor mail us after the last Camlachie meeting to tell us that there would be no wind project? Why did I receive a letter that Suncor was NOT going to pursue this issue?	In October 2010, following an initial public open house for the Camlachie-Cedar Point wind power project, we notified community stakeholders that since we did not yet have a contract with the Ontario Power Authority as part of the

Theme	Comment	Response
		Feed in Tariff (FIT) process, further public consultation on the Camlachie-Cedar Point Wind Power Project was being put on hold. This project was one of four wind power projects that Suncor was proposing for Southern Ontario under the FIT process. Following that letter to community stakeholders, the first round of contracts was awarded by the Ontario Power Authority. At that time, only two of Suncor's proposed four projects in Ontario – the Adelaide wind power project and Cedar Point II wind power projects – were awarded contracts. The Camlachie-Cedar Point Project, which consisted of both the 20 MW Camlachie project and the 50 MW Cedar Point I, was not awarded a FIT Contract at that time.
	Why does Suncor bring in OPP at these gatherings? This does not say much for Suncor's integrity.	Municipal engagement and consultation is an important part of the renewable energy development process. Suncor has consistently promoted an open and genuine dialogue with stakeholders to ensure questions about our wind energy projects are heard, understood and answered. Local security and members of the Provincial Liaison Team of the OPP are present to help ensure a respectful and safe forum for everyone.
	You need to provide staff that is knowledgeable not scripted. This was a misinformed way to provide information to a community. Concerned about Suncor's commitment to communicate honestly with local citizens.	At Suncor open houses, we have numerous people available to answer questions and discuss our proposed wind power projects. Various technical staff (e.g. biologists, risk assessors, scientists, etc.) along with Suncor representatives experienced in all facets of wind power project development and construction were present

Theme	Comment	Response
		at the recent open houses. If you did not feel that your question was answered to your satisfaction, we would encourage you to contact Suncor directly through our email address of cedarpoint@suncor.com.
	Consultation is required before the project is approved. Suncor has done a great job of keeping everything quiet and secret - half of the boards say "not determined".	It is important to note that the Project is in the early stages of development and as more information is obtained, it will be provided to stakeholders (i.e. via Draft Renewable Energy Approval (REA) Reports, additional public meetings, etc.). Suncor plans to include additional public meetings once we are able to share our draft turbine layout of all possible turbine locations. We will then be seeking input from the community on the layout. Suncor will post all information as it becomes available on our website. Stakeholders are encouraged to visit the website (www.suncor.com/cedarpointwind) and e-mail questions to cedarpoint@suncor.com directly.

Welcome

Kent Breeze Wind Power Project

We Are Here To:

- Introduce Suncor Energy Products Inc. to the community
- Present the proposed Project and provide a status update
- Provide an overview of the Renewable Energy Approval (REA) process
- Answer questions about the Project and outline next steps
- Receive the community's input and feedback for consideration by the Project Team in Project design and the REA process

Enercon Turbine at Ripley

Who Is Suncor?

- Suncor is one of the largest players in renewable energy in Canada (wind and biofuels)
- With increased demand for energy in this country, we support energy diversification and believe that renewable energy plays an important role in helping us to address air and water quality and provide solutions for greenhouse gas reductions
- We are committed to a “parallel path” for energy development, we build today's oil sands, conventional oil and natural gas resources while also bringing along new sources of energy for tomorrow
- We are dedicated to the safe and responsible development of renewable energy generation and have to date constructed 255 MW of wind power facilities across Canada – AB, SK, ON

Ripley Wind Power Project

The Business of Wind Power

- Suncor's current renewable energy projects (wind and biofuels) are expected to displace the equivalent of nearly 1 million tonnes of carbon dioxide yearly
- This is equal to the annual tailpipe emissions of approximately 200,000 cars
- Suncor's 6 producing wind farms are expected to generate enough electricity to power 100,000 homes

Project Name	Commissioning Date	Location	Capacity	Number of Turbines	Technology
SunBridge Wind Power Project	2002	Saskatchewan	11MW	17	660 kW Vestas turbines
Magrath Wind Power Project	2004	Alberta	30MW	20	1.5 MW General Electric turbines
Chin Chute Wind Power Project	2006	Alberta	30MW	20	1.5 MW General Electric turbines
Ripley Wind Power Project	2007	Ontario	76MW	38	2 MW Enercon turbines
Kent Breeze Wind Power Project	2011	Ontario	20MW	8	2.5 MW General Electric turbines
Wintering Hills Wind Power Project	2011	Alberta	88MW	55	1.6 MW General Electric turbines

WIND POWER PROJECT

Suncor Projects Under Development in Ontario

Project Name		Contract	Location	Capacity
Adelaide Wind Power Project		Feed-In-Tariff (FIT)	Middlesex County	Up to 40 MW
Camlachie Wind Power Project		No	Lambton County	Up to 20 MW
Cedar Point Wind Power Project	Phase I	No	Lambton County	Up to 50 MW
	Phase II	Feed-In-Tariff (FIT)	Lambton County	Up to 100 MW

Recently erected wind turbine at Kent Breeze Wind Power Project

- Suncor has been developing three projects in Ontario
- Adelaide and Cedar Point Phase II are currently the only projects that have received a contract to deliver electricity to the Province
- Suncor continues to develop the Camlachie and Cedar Point Phase I project however contracts have not been awarded for these projects at this time

WIND POWER PROJECT

The Project

- Suncor is proposing to develop the Suncor Energy Cedar Point Wind Power Project (the Project)
- The Project was awarded a Feed-In-Tariff (FIT) contract with the Ontario Power Authority (OPA) on July 4, 2011
- The FIT Contract was for up to 100 MW which could consist of up to 62 wind turbines
- The number of turbines will be dependent upon final selection of make and model of the wind turbine most appropriate for the Project
- Additional components include; meteorological towers, access roads, electrical collector lines, substation, transmission line, and switching facility

Recently erected wind turbines at Ripley Wind Power Project

WIND POWER PROJECT

Draft Site Plan

- The draft turbine layout has not yet been completed for this Project
- It is anticipated that the draft site plan will be available in the next couple of months
- When the draft site plan is available Suncor will hold another Public Meeting to show the draft project layout to the community and solicit feedback
- Notices will be posted in local newspapers and sent to the project mailing list to announce the date, time and location of the Draft Site Plan Public Meeting
- We appreciate your patience as we navigate through the development process

Ripley Wind Power Project

WIND POWER PROJECT

Why This Location?

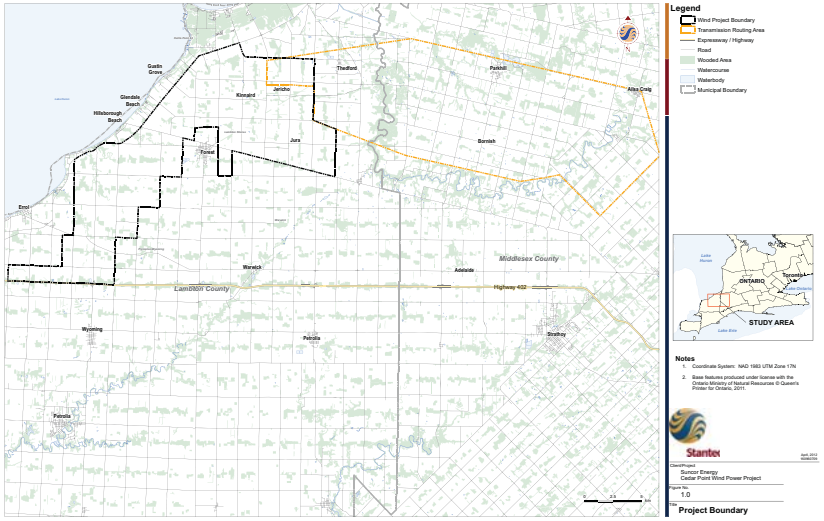
- Good wind regime
- Compatible land uses – agricultural land
- Landowner interest – 192 parcels participating
- Electrical interconnection – agreement with the Ontario Power Authority to feed power into the local grid
- Environment – based on studies to date, there will be a minimal impact on wildlife and natural features
- Local economic benefit – construction jobs, municipal tax revenue, supplemental income for farmers on participating lands
- Site access – good existing road infrastructure
- Accessible topography

First GE 2.5 MW turbine in North America - Kent Breeze Wind Power Project

SUNCOR ENERGY

WIND POWER PROJECT

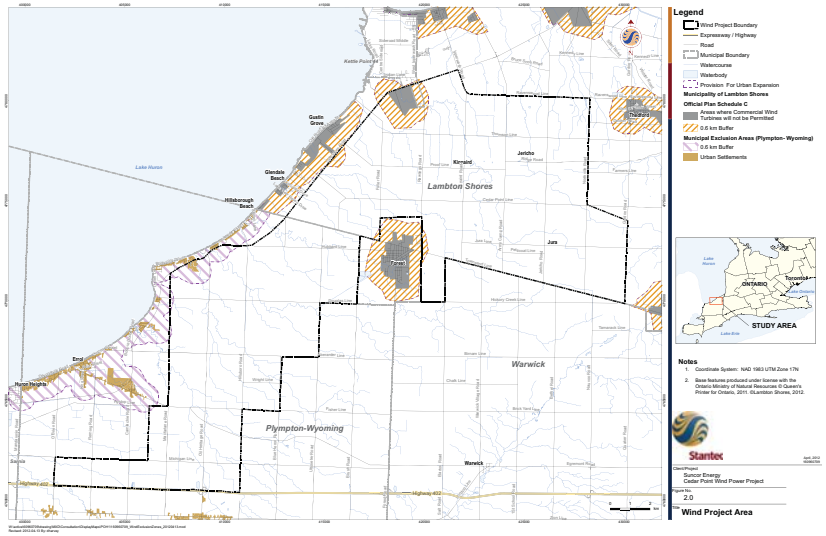
Project Boundary



SUNCOR ENERGY

WIND POWER PROJECT

Provision for Urban Expansion

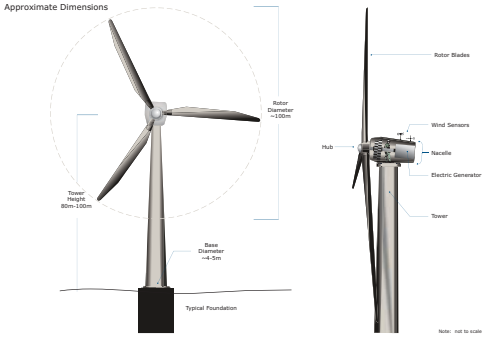


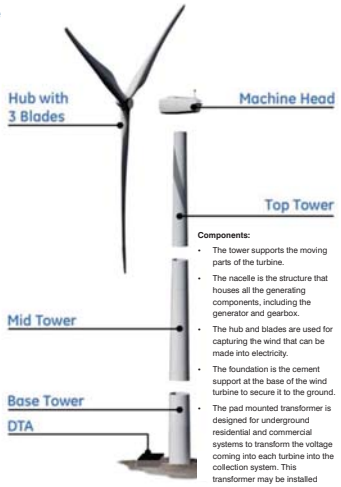
SUNCOR ENERGY

WIND POWER PROJECT

Wind Turbine Details

- The wind turbine manufacturer has not yet been selected, therefore the number of turbines has not yet been decided:
  - Number of turbines: Up to 62
  - Maximum nameplate capacity: 100 MW
  - Maximum Tower Height (both hub and blade length): 156 m
  - Maximum Rotor Diameter: 113 m





Components:

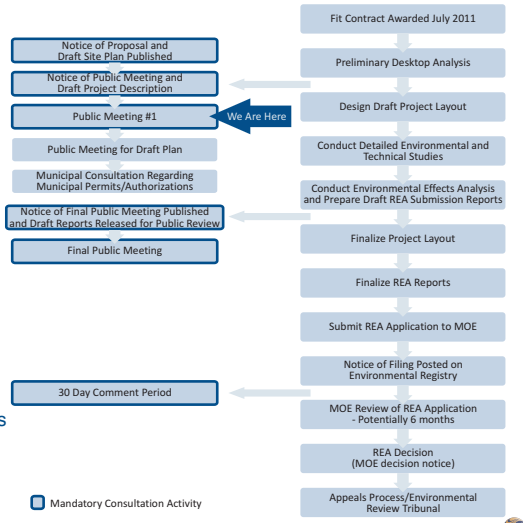
- The tower supports the moving parts of the turbine.
- The nacelle is the structure that houses all the generating components, including the generator and gearbox.
- The hub and blades are used for capturing the wind that can be made into electricity.
- The foundation is the cement support at the base of the wind turbine to secure it to the ground.
- The pad mounted transformer is designed for underground residential and commercial systems to transform the voltage coming into each turbine into the collection system. This transformer may be installed within the base of the steel tower on some turbine models.

SUNCOR ENERGY

WIND POWER PROJECT

Renewable Energy Approval Process

- The *Green Energy and Green Economy Act (GEA)*, and related amendments to other provincial legislation, received Royal Assent in the Ontario Legislature on May 14, 2009
- The Project will require a Renewable Energy Approval (REA) according to Ontario Regulation 359/09 (REA under Part V0.1 of the Act) under the *Environmental Protection Act*
- This regulation became law on September 24, 2009, was amended on January 1, 2011, and replaces the previous *Ontario Environmental Assessment Act* process for wind projects
- Suncor is planning on submitting our REA application by the end of the year



Municipal Control

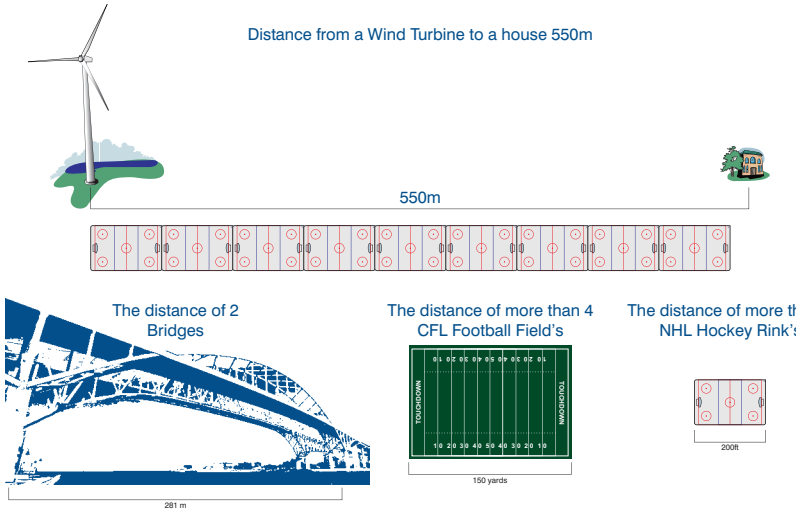
Key Permit / Authorization	Rationale	Timing
Municipal Consultation Form	To be provided to each municipality in which the project is located. To bring forward issues related to municipal serving and infrastructure that the proponent must consider	30 days before the first Public Meeting
Municipal Review of Draft Renewable Energy Approval (REA) Reports	Provide additional time for the municipality to review the REA documents and provide comment	90 days before the final Public Meeting
Municipal Consent, Work within the municipal R.O.W	Required for works in municipal road allowances	Before construction
Road Cut Permit	May be required for access roads from county roads or works to county roads	Before construction
Pre-Condition Road Survey	Assessment of pre-construction road conditions for engineering staff	Before construction
Building Permit	Compliance with building codes	Before construction
Entrance Permit	Entrance from county roads	Before construction
Transportation Plan	Adherence to road safety and suitability	Before construction
Additional Plans related to general engineering (e.g. siltation control, lot grading, plan of services, storm water, transportation, etc.)	Required supporting information/plans	Before construction
Municipal Road Right of Way Requisition Agreement	Establish requirements to return roads to agreed upon state	Before construction

Renewable Energy Approval Process Setbacks

- A key component of the Renewable Energy Approval (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 for environmental features, additional analysis (i.e., Environmental Impact Study) will be provided in the REA application
- Key setbacks that will be applied throughout the design of the Project are as follows:

Feature	Setback Distance
Non-participating dwelling, school, etc.	40dBA and minimum 550 m (from centre of turbine base)
Public road right-of-way and railway right-of-way	Turbine blade length + 10 m (from centre of turbine base)
Property line	Turbine height (excluding blades) (from centre of turbine base)
Provincially significant wetland (PSW)	120 m (development prohibited within PSW)
Provincially significant Area of Natural and Scientific Interest (Earth Science)	50 m
Provincially significant Area of Natural and Scientific Interest (Life Science)	120 m
Significant valleyland	120 m
Significant woodland	120 m
Significant wildlife habitat	120 m
Lake or a permanent or intermittent stream	120 m from the average annual high water mark
Seepage area	120 m

Turbine Setback Distances



*Scale is Approximate.

Reports Included in a Renewable Energy Approval Application

- **Project Description Report** (a working Draft is already posted on the Project website) – provides an overview of the Project
- **Construction Plan Report** – describes the activities associated with construction and identifies any potential effects resulting from construction of the project
- **Design and Operations Report** – describes the activities associated with operation of the project and identifies any potential effects resulting from operation of the project
- **Noise Study Report** – Ensures the project is in compliance with noise regulations
- **Natural Heritage Assessment & Environmental Impact Study** (includes technical studies for wildlife and wildlife habitat) – identifies potential effects on natural environment
- **Consultation Report** – Demonstrates how Suncor engaged with various stakeholders through the development of the project
- **Archaeological and Cultural Heritage Report** – identifies potential effects on archaeological or cultural heritage resources
- **Water Body and Water Assessment Report** – identifies potential effects on streams, rivers, seepage areas and lakes
- **Wind Turbine Specifications Report** – describes the turbine technology selected for the project
- **Decommissioning Plan Report** – describes the activities associated with decommissioning the project and identifies any potential effects resulting from decommissioning the project

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 Meeting. Notification of the release of the draft reports will be provided in newspapers and on the Project website

Natural Heritage Assessment

- The Natural Heritage Assessment is made up of 3 to 4 components: Record Review, Site Investigation, Evaluation of Significance, and Environmental Impact Assessment (if applicable)
- Currently, the Record Review for the Project has been completed
- The Site Investigation has been underway since September, 2011
- For the Records Review background data were collected and reviewed to identify natural features located in or within 120 m of the Project Location
- The results of the Record Review are as follows:

Natural Feature	Result
Wetlands	• No provincially significant wetlands were identified within 120 m. • Site investigations are underway to identify previously unknown wetland features.
Woodlands	• 118 woodlands of at least 4 ha in size in the Project Boundary. • 44 were identified within 120m. • Site investigations are underway to confirm presence and boundaries of woodlands.
Valleylands	• No valleylands are present within 120 m of the Project Location.

Wildlife Habitat	The following natural features have either been confirmed or have the potential to be found within 120 m of the Project Location.
	• Seasonal concentration areas
	  ◦ Colonial bird nesting sites
	  ◦ Waterfowl stopover, staging & nesting sites
	  ◦ Winter raptor feeding & roosting areas
	  ◦ Reptile hibernacula
	  ◦ Bullfrog concentration areas
	  ◦ Winter Deer yards
	  ◦ Shorebird migratory stopover areas
	  ◦ Handbird migratory stopover areas
	  ◦ Migratory butterfly stopover areas
	  ◦ Bat maturnity roosting areas
	• Rare vegetation communities or specialized habitats
	  ◦ Habitats of forest bird species
	  ◦ Old growth or mature forest stands
	  ◦ Foraging areas
	  ◦ Amphibian woodland breeding ponds
	  ◦ Turtle nesting habitat
	  ◦ Specialized raptor nesting habitat
	  ◦ Mink denning sites
	  ◦ Cliffs
	  ◦ Seeps and springs
	• Species of conservation concern
	  ◦ Rare species & declining bird populations
	• Animal movement
	  ◦ Hedgerows
	Site investigations are underway to confirm presence and boundaries of candidate significant wildlife habitat.

Areas of Natural & Scientific Interest (ANSI)	• No Life Science ANSIs were identified within 120 m of the Project Location. • No Earth Science ANSIS were located within 50 m of the Project Location.
Natural Features in Specified Provincial Plan Areas	• The Project is not located within any provincial plan areas.
Provincial Parks and Conservation Areas	• There are no provincial parks or conservation reserves within 120 m of the Project Location.

Archaeological Assessment

- A Stage 1 Archaeological Assessment (a desktop archaeological study) was completed to determine the archaeological potential for both Pre-Contact Aboriginal and Euro-Canadian cultural remains within the Project Location
  - The results of the Stage 1 indicated that further archaeological studies would be required
- A Stage 2 Archaeological Assessment began in the Spring of 2011. The Stage 2 field assessment is intended to provide an inventory of archaeological sites on the proposed lands to be impacted by the Project
- Once complete the results of the Stage 2 will determine whether a Stage 3 Archaeological Assessment is required
- Findings from the archaeological assessments will be considered in the Project design to minimize impacts as much as possible
- Upon completion the Archeological Assessment Reports will be submitted to the Ministry of Tourism, Culture, and Sport for acceptance into the Ontario Public Register of Archeological Reports

Within the Suncor Adelaide Wind Power Project Boundary

Project Schedule Overview

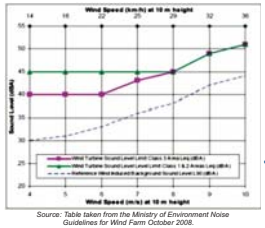
Activity	Dates
REA Technical Studies and Consultation	2011 and 2012
Notice of Proposal	March 2012
Public Meeting #1	April 2012
Public Meeting - Draft Site Plan	Summer 2012
Consultation with Municipality - Permits/Authorizations	Summer/Fall 2012
Draft REA Reports to Public	Summer/Fall 2012
Public Meeting #2	Fall 2012
REA Submission	Fall/Winter 2012
Start of Construction	Summer 2013
Commercial Operation Date	Summer 2014
Repowering/Decommissioning	Approximately 20 years after COD

Acronyms:
REA – Renewable Energy Approval
COD – Commercial Operation Date

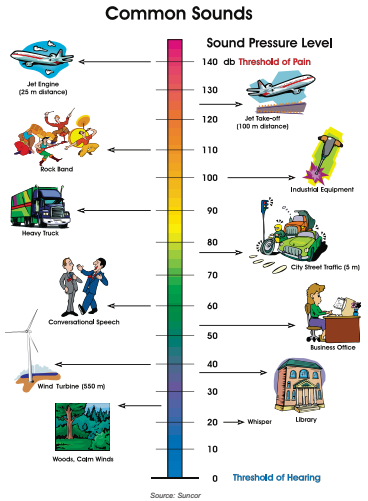
Preparation of rotor installation - Wintering Hills Wind Power Project

Typical Sound Levels and Wind Farms

- There are two potential sources of sound typically associated with wind turbines:
  - **Aerodynamic** - blades pass through the air and create a "swishing" sound
  - **Mechanical** – originated from the gearbox and generator that are housed in the nacelle
- A project this size requires a Noise Assessment Report be completed to ensure the project complies with Ministry of Environment requirements
- The Noise Assessment will consider other operational or proposed wind facilities within a 3 km radius of a proposed turbine location
- Turbines have been and will continue to be sited to ensure compliance with Ministry of Environment requirements, including being located a minimum of 550 m from non-participating receptors (residents)



Source: Table taken from the Ministry of Environment Noise Guidelines for Wind Farm October 2008.



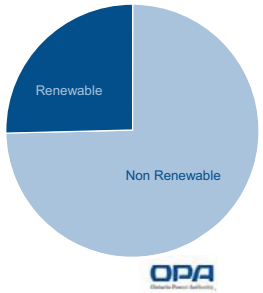
Source: Suncor

- The Project is located in a Class 3 area, which is defined as "a rural area with an acoustical environment that is dominated by natural sounds having little or no road traffic" as per the MOE Noise Guideline

Ontario Power Supply Mix

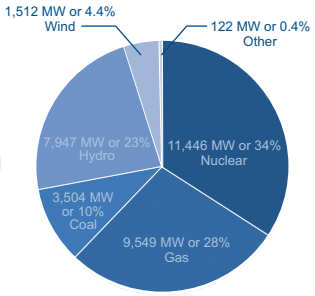
Ontario Installed Supply Capacity*

2009



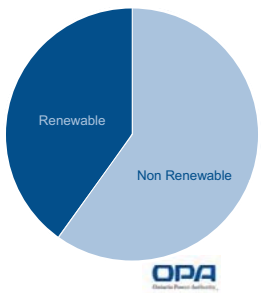
Ontario Supply Mix**

2012



Projected Ontario Installed Supply Capacity*

2014



* From OPA 15899_Ontarios_Renewable_Energy_Feed-In_Tariff_Program.pdf
** based on IESO January 31, 2012 Supply Mix

Community Benefits

- Job creation
- New local investment
- Secondary source of income for farmers and landowners
- Additional tax payments to local municipalities (for a 100 MW project approximately $175,000/yr)
- Small project footprint
- Provide a new supply of safe, clean and reliable electricity
- Helps meet Ontario's commitment to renewable energy and phasing out of coal-fired power plants to reduce healthcare costs

Within the Suncor Cedar Point Wind Power Project Boundary

Environmental Benefits

- It's operation is pollution free
- It doesn't contribute to smog or acid rain
- It utilizes a completely renewable resource which is free
- Generating electricity from wind leaves behind no hazardous or toxic wastes and does not contribute to climate change
- Zero emissions – helps meet forecasted energy supply requirements while reducing greenhouse gas levels

Environmental Impact of Electricity Sources

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

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

Health and Wind Power

Public health and safety will be considered during all stages of the Project

- Many studies have been conducted world-wide to examine the relationship between wind turbines and possible human health effects
- In Ontario "Ontario doctors, nurses, and other health professionals support energy conservation combined with wind and solar power – to help us move away from coal"

Ontario College of Family Physicians, Registered Nurses Association of Ontario, Canadian Association of Physicians for the Environment, Physicians for Global Survival, the Asthma Society of Canada, and the Lung Association

- In "The Potential Health Impact of Wind Turbines" (May 2010), Ontario's Chief Medical Officer of Health recently examined the scientific literature related to wind turbines and public health, considering potential effects, such as dizziness, headaches, and sleep disturbance. The report concluded that:
  - *"…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 report also concluded that 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, the report states that there is no scientific evidence to date that vibration from low frequency wind turbine noise causes adverse health effects
- Overall, health and medical agencies agree that sound from wind turbines is not loud enough to cause hearing impairment and is not causally related to adverse effects*
- Scientists and medical experts around the world continue to publish research in this area. Through our health consultants, Suncor Energy is committed to keeping informed on this issue

*e.g., Chatham-Kent Public Health Unit, 2008; Minnesota Department of Health, 2009; Australian Government, National Health and Medical Research Council, 2010; Australian Government, 2011, Massachusetts Department of Environmental Protection (MassDEP) and Massachusetts Department of Public Health (MDPH), 2012

SUNCOR ENERGY

WIND POWER PROJECT

Construction at Suncor's Wintering Hills Wind Power Project




Stantec

SUNCOR ENERGY

WIND POWER PROJECT

Construction at Suncor's Wintering Hills Wind Power Project



Stantec

SUNCOR ENERGY

WIND POWER PROJECT

Construction at Suncor's Wintering Hills Wind Power Project



Stantec

SUNCOR ENERGY

WIND POWER PROJECT

Construction at Suncor's Wintering Hills Wind Power Project

Stantec

WIND POWER PROJECT

Suncor's Ripley Wind Power Project

WIND POWER PROJECT

How to have your Questions Answered:

- Ask the Project Team
- Fill out a Comment Card and hand it in or mail it back a postage paid postcard
- Take time to read the information panels around the room
- Review the Studies and Reports available on the tables and on the Project Website
- Visit the Project Website: www.suncor.com/cedarpoint
- Send us an email: cedarpoint@suncor.com
- Give us a call: 1-866-344-0178
- Mail us a letter: Suncor Energy
  P.O. Box 2844,150 6th Ave SW
  Calgary, AB
  Canada, T2P 3E3

Within the Suncor Cedar Point Wind Power Project Boundary

WIND POWER PROJECT

Within the Suncor Adelaide Wind Power Project Boundary

Thank You

Thank you for attending our Project Open House

We appreciate you taking the time to come and learn about our Project

If you would like to be added to the Project mailing list please sign in at the front

Suncor Energy Cedar Point Wind Power Project
August 21, 22 and 23, 2012 Public Meeting Comment Response Table

The following table summarizes the comments received during and after the August 21-23, 2012 Public Meetings for the Suncor Energy Cedar Point Wind Project (the Project). Responses to these questions are being provided based on the status of the Project at the time of the release of this document (March/April 2013). The number in the bracket beside each theme indicates the number of similar comments received via the comment card and email address.

Theme	Comment	Response
Cost (5)	People can't afford the cost of wind energy. Other jurisdictions have realized the uneconomic reality (re: Norway). Can these projects operate without government subsidy?	New power plants are required to meet the increasing demand for electricity and to replace aging power plants. It is imprecise to compare the costs of new power generation to existing power plants. In order to make an accurate comparison, one must measure the costs for various types of new power plants. The contract rates were set by the provincial government to incent green energy development in Ontario and create jobs. As technology has improved over time, wind projects are proven to compete with other forms of new generation and can operate without government subsidy. This link provides the news release by the Ontario government related to this information. http://news.ontario.ca/opo/en/2010/04/ontario-becoming-north-american-green-energy-leader.html
	I understand that excess electricity is diverted to Quebec at a cost to Ontario. This simply does not make sense to us.	Ontario is connected to neighbouring electrical regions and electricity flows back and forth according to supply and demand. The electricity market in North America including Ontario is settled and balanced every five minutes. This includes settlements with adjacent provinces or states. The price paid for imported/exported electricity from Quebec and other markets fluctuates with market demand, although, the Independent Electricity System Operator (IESO) has set the minimum price for exported power which is currently set at $0 per megawatt hour. To find out more about the Ontario energy market and how it is operated please go to: www.ieso.ca
	Wind turbines are not economical as they are not a reliable source of electricity.	Utilities around the world continue to recognize the value wind energy can play within a larger interconnected electrical transmission system. With good placement, a modern wind turbine will typically produce electricity 70 percent of the time. Enhanced technology and design improvements have also played a part in increasing the reliability of wind power allowing turbines to generate electricity in all but the most extreme weather conditions. The use of advanced wind and weather forecasting tools help to make wind energy more predictable and more reliable than ever before.

Theme	Comment	Response
	Believe it is imperative that tower and blade manufacturing be maximized in Ontario creating as many spin off jobs as possible.	The Feed in Tariff program includes a domestic content requirement which requires projects use components manufactured in Ontario. The prices set in the FIT program have attracted manufacturers of renewable energy components to Ontario to spur the economy and generate jobs. As a result Suncor is required to purchase turbine components, electrical components, labour and engineering services from Ontario companies to meet the requirements in the Feed In Tariff contract. Suncor has selected the Siemens SWT 2.3-113 wind turbine. Siemens is manufacturing the following components in Ontario: • Blades at Siemens blade facility in Tillsonburg, ON • Towers sections from CS Wind (Windsor, ON) or TSP (St. Catharines, ON) • Steel for towers sourced from the steel mill at Essar Steel Algoma Ontario • Heat Exchanger assembled and tested at Grand Valley Specialty Welding (Cambridge Ontario) Siemens is expecting to create up to 300 jobs at its Renewable Energy business in Canada including at the Tillsonburg facility. As Suncor continues to progress the project design, we are committed to continuing to use Ontario companies and labor to support this project from the application phase through to engineering and construction and ultimately operations, assuming we receive our REA permit.
Decommissioning (4)	When turbines are decommissioned the entire foundation and transmission lines should be removed as well.	Suncor, as the owner of the proposed wind power project, is responsible for the decommissioning of the Project. Suncor is committed to returning the site to a safe and clean condition after decommissioning of the Project in accordance with Ministry of the Environment, Ministry of Natural Resources requirements and our lease commitments.
	Are the turbines able to be recycled after decommissioning?	At the end of a wind turbine's life, it would be dismantled and portions would be recycled. Project components with remaining useful life may be resold into the market. In general, the physical works involved in dismantling a project infrastructure follow the reverse procedures and practices required for their construction. As required by the Ministry of the Environment, a decommissioning plan will be included in the Renewable Energy Approval (REA) application which will be publicly available. This plan will outline our commitment to decommission the project.
	Suncor should be required to post a bond to	Per the requirement of the REA approval, Suncor, as the owner of the proposed wind

Suncor Energy Cedar Point Wind Power Project
August 21, 22 and 23, 2012 Public Meeting Comment Response Table

Theme	Comment	Response
	cover the cost of decommissioning.	power project, is responsible for the cost of component removal during decommissioning of the project.
	What happens after the 20 year lease is over and not renewed?	Upon the end of the project's life, Suncor will decommission the site in accordance with government requirements and lease commitments. Suncor will return the site to a safe and clean condition.
Support (6)	In support – Job well done. We must get rid of coal and move to clean energy.	Thank you for your comments. We appreciate all input received through the public consultation process and want to understand all points of view to build the best project possible.
	Your displays had useful information and are more effective than an open meeting. There is a significant amount of misinformation being presented in the media. Suncor needs to give the "facts" in local media. Your voices need to be heard to diffuse the misinformation.	Thank you for your comments. We appreciate that the community is not unanimous in its support of our proposed project, and that different opinions are often represented in the media. Our focus is to communicate directly with the public through our public consultation as we work toward completion of our Renewable Energy Application.
Health (26)	I have spoken to people who live near the turbines who have documented health issues related to the proximity to the turbines. There should be a moratorium on Projects until the Health Canada study is released.	Suncor has been part of the Canadian wind industry for more than 10 years and continues to monitor studies and scientific information related to health effects and wind power projects. According to www.WINDFACTS.CA: "The balance of scientific evidence and human experience to date clearly concludes that wind turbines are not harmful to human health – in fact, wind energy reduces harmful air emissions and creates no harmful waste products when compared with other sources of electricity. This conclusion has been reached by numerous independent reviews of the scientific literature. The global wind industry collectively continues to engage with experts in science, medicine and occupational and environmental health to monitor ongoing credible research in the area of wind turbines and human health." The Ontario Chief Medical Officer's 2010 report concluded that there is 'no scientific evidence of any direct causal link between wind turbines and adverse health effects. http://health.gov.on.ca/en/common/ministry/publications/reports/wind_turbine/wind_turbine.pdf

Theme	Comment	Response
	How do you propose to compensate the population for all of the negative health effects they will suffer?	According to www.WINDFACTS.CA: "The balance of scientific evidence and human experience to date clearly concludes that wind turbines are not harmful to human health – in fact, wind energy reduces harmful air emissions and creates no harmful waste products when compared with other sources of electricity. This conclusion has been reached by numerous independent reviews of the scientific literature. The global wind industry collectively continues to engage with experts in science, medicine and occupational and environmental health to monitor ongoing credible research in the area of wind turbines and human health." The Ontario Chief Medical Officer's 2010 report concluded that there is 'no scientific evidence of any direct causal link between wind turbines and adverse health effects. http://www.health.gov.on.ca/en/common/ministry/publications/reports/wind_turbine/wind_turbine.pdf
	Concerned about the health effects of electromagnetic fields (EMF).	Suncor recognizes that people are concerned about EMF, and we treat those concerns very seriously. There has been more than 30 years of research that has included numerous studies and reviews by national and international scientific and health agencies, including Health Canada and the World Health Organization. None of these agencies have concluded that exposure to EMF from power lines is a demonstrated cause of any long-term adverse effects to human, plant, or animal health. None of these agencies has recommended that the general public take steps to limit their everyday exposure to EMF. Based on this research and the conclusions of these agencies, Suncor believes that the levels of EMF associated with its transmission facilities are not a risk to health. For further information, you can check out the following websites:

Theme	Comment	Response
		World Health Organization http://www.who.int/peh-emf/about/WhatisEMF/en/ Health Canada http://www.hc-sc.gc.ca/hl-vs/iyh-vsv/environ/magnet-eng.php Canadian Electricity Association http://www.electricity.ca/industry-issues/environmental/electric-and-magnetic-fields.php National Institute of Environmental Health Sciences http://www.niehs.nih.gov/health/topics/agents/emf/index.cfm
	Concerned about the impacts of sun reflection off turbine blades.	Turbine blades are light coloured grey and the surface gloss is classified as a 'semi-matte' to reduce reflection of light.
Property Values (12)	What happens if a turbine damages someone else's property? Who pays for the damage?	In the extremely unlikely event that damage is caused to a neighbouring property as a direct result of the construction or operation of the Project, Suncor would work to remedy any damage.
	Concerned about financial loss due to property value decreases. Suncor should guarantee that homeowners living near your wind turbines will be reimbursed for loss of property value. It won't make any difference to farm land but it will be huge to the small property owner (1-10 acres).	There are conflicting views on the effects of wind power projects on property value. Two recent studies conducted in southern Ontario (Municipality of Chatham-Kent (2010) and Township of Melancthon, Township of East Luther Grand Valley and County of Dufferin (2006)) both indicate that there was no decrease in the property value due to the construction of wind power projects in the area. In addition, REMAX Market Trends Farm Edition 2011, indicated significant increases in the price of farmland from 2010 values across Ontario. The report also mentioned that additional sources of income from solar panels, windmills and gas leases can potentially net the average farm additional income above and beyond crop value on their land, which in part, has contributed to increases in farmland prices.

Theme	Comment	Response
		A recent case study published on www.ontario-wind-resistance.org was provided to Suncor. The case study "Diminution in Value – Wind Turbine Analysis" was completed by Lansink Appraisals and Consulting. The report focuses on 5 properties within the wind farm purchased and sold by the wind farm operator. CanWEA is reviewing the details of the report and has identified areas of concern with respect to the design and results of this study. Suncor continues to stay abreast of this review. http://www.canwea.ca/news/release/release_e.php?newsId=159 Suncor will continue to review third party studies related to property values.
Opposition (9)	I am in strong opposition of the project.	Thank you for your comments. We appreciate all input received through the public consultation process and want to understand all points of view to build the best project possible.
	You are tearing apart families and longtime neighbours in the rural areas. It has pitted land owners (mainly farmers) against small property owners.	We recognize that support for our projects, and for wind energy development in general is not unanimous. We appreciate all input received through the public consultation process and want to understand all points of view to build the best project possible.
	Many residents oppose this project, and should have the right to vote on such a large change to their community.	We recognize that support for our projects, and for wind energy development in general is not unanimous. The vehicle that has been established by the regulators to receive public input is through the public consultation process. We encourage residents to express their opinions directly to their local political representatives. At the same time, we are continuing to receive feedback from the community and will use that input to build the best project possible.
	At your public meetings, 98% of residents do not want wind turbines.	Thank you for your comments. We appreciate all input received through the public consultation process and want to understand all points of view to build the best project possible.

Theme	Comment	Response
Technology (5)	Would like to see all transmission lines buried underground to minimize visual impact.	Final selection of the transmission line route will be based on the results of consultation activities including those with the local landowners, local municipalities, Ministry of Transportation, and detailed design / engineering work. Currently, all collector lines on private property are proposed to be buried. The high voltage transmission line proposed for this project is proposed to be above ground. An attempt to reduce visual impact has been completed by selecting a route that passes the fewest residences. Agricultural impacts were minimized by locating the route along property limits and road right of ways where possible.
	How will you store excess energy produced?	Energy produced by the Project will be sent into the provincial power grid. The Independent Electricity System Operator (IESO) manages the overall supply and demand balance for Ontario. This Project does not have any storage capabilities planned.
	What is the inspection frequency of the turbines?	The inspection frequency of the turbines consists of a prescribed preventative maintenance schedule and additional inspections to address requirements identified during the routine monitoring of the turbines. The project is monitored 24/7 by a control centre with field technicians, who work with developed procedures designed to address everything from simple resets to emergency response events.
	Will lights be on all the turbines?	Transport Canada is the regulator that determines which turbines require aviation lighting. Suncor will work with Transport Canada to safely minimize the amount of turbines requiring aviation lighting. Approximately 60% of the turbines will require lighting to satisfy Transport Canada requirements.
Tourism (1)	What is your evidence base that tourists will flock to our area to see wind turbines? You underestimate the ability of the public to read	Renewable energy projects can be marketed as a tourism feature which can result in additional economic benefits to the local community.

Theme	Comment	Response
	about adverse effects of wind turbines and the protests against them around the world.	According to information provided by our industry association, CanWEA, "Wind projects are objects of fascination for many and, as such, can generate tourism for the local community. Some wind projects get thousands of visits a year and the benefits of that amount of visitors to a community can be felt by many businesses including shops, restaurants and hotels and motels."
Land use (1)	You are covering excellent farm land with cement and desecrating native ancient historical grounds.	Suncor has met with each landowner with proposed infrastructure on their property and discussed how our infrastructure can coexist on their property with their own ongoing operations. A 100 acre property with a single wind turbine would lose between 1 and 2 acres of land from agricultural production. Suncor has also conducted a Stage 1 and 2 archeological study to identify areas of potential cultural significance and search areas planned for infrastructure for artifacts. Artifacts were discovered at 16 locations that will require additional archeological work to fully assess their cultural significance and impact to the project. All archeological studies are being conducted in accordance with rules set by the Ministry of Tourism Culture and Sport (MTCS).
Setback (15)	Set back has to be at least 2000 m. It should be used to protect residents including children with disabilities. Respect Plympton Wyoming Councils decision of 2000 m. All parties within 2 km setback of the turbines should be in agreement with their construction.	We are aware of the by-laws of Plympton-Wyoming. Provincial regulations set out the guidelines for setback in order to protect public health and safety. Our project is designed in accordance with the provincial regulations
	Distance to roadways should be 2 km in case of catastrophic failure.	According to current regulatory requirements, wind turbines can be located a minimum distance of blade tip + 10 m (approximately 66.5 m) from road rights-of-way. Suncor has located all turbines a minimum of 100 metres from any road and a minimum distance of 150 metres from major roads.
	Why are the turbines so close to schools and houses?	The Ministry of the Environment established guidelines indicating that the minimum distance that a turbine can be placed from a school or house is 550 metres. Aberarder Central School is the only school located within the project boundary. The closest proposed turbine to the Aberarder Central School is 1,207 metres. On average, the distance from Suncor's proposed turbines to the nearest house is 734 metres.

Theme	Comment	Response
	Create and enforce a code of ethics for placement of turbines among neighbours. In particular land owners supporting and profiting should have them closest to their residence not neighbours.	When developing a project, Suncor attempts to minimize the impact on all stakeholders. Suncor has selected a larger turbine generator to reduce the overall number of turbines required for this Project.
	Greater setbacks from property lines should be enforced. The larger the turbines (similar to those to be erected in the community) should have a greater setback in case of catastrophic failure.	Turbine setbacks to property lines are directly related to the dimensions of the turbine (e.g. hub height or blade length plus 10 m). Thus, the larger the turbine proposed, the greater the setback required to property lines. Additional information is provided in the Property Line Setback Assessment (Attachment D to the Design and Operations Report).
	The 550 m setback is one of the smallest in the world. Britain just passed a bill in 2012 to have a 3 km setback on turbines over 150 m tall.	The 550 m setback is a minimum distance requirement set by the Ministry of the Environment.(MOE). In addition, the sound level at each 'receptor' (which is a MOE regulatory term that includes houses, schools, etc.) cannot exceed the MOE noise criteria. This generally causes the distance between a turbine and a house to be greater than 550 metres. On average, the distance from Suncor's proposed turbines to the nearest house is 734 metres. When developing requirements, the Ministry of the Environment used existing scientific research from around the world. For a list of studies supporting the Ministry of the Environment's decisions related to setbacks, please visit http://www.ene.gov.on.ca/stdprodconsume/groups/lr/@ene/documents/nativedocs/stdprod_085127.pdf
Location (20)	Provided input as to the turbines which should not be built (e.g. in proximity to the lakeshore, Hubbard Line, Hickory Creek, etc.) due to factors such as proximity to residential areas, changes to the rural viewscape, change in land use to industrial, health and noise concerns, and tourism impacts. Put them where there are no residents such as northern Ontario, industrial sites or in Toronto where the power is needed.	The number of turbines being proposed for the Project has been reduced since the previous public meetings in part based upon the feedback of local stakeholders at the previous public meeting. (Previously 77 turbines were shown on the map, with a plan to build up to 62; today, our project plan shows 55 possible locations and 46 planned to be constructed.) At previous open houses, Suncor requested stakeholders to identify the turbine(s), which were of most concern to them. This information was taken into consideration by Suncor when revising the Draft Site Plan.
	Why are turbines not erected in the GTA where the power is needed?	This particular project site was selected because there was a reliable wind resource, available transmission capacity, and an interest in landowner participation. The power will be fed into the provincial transmission system and used where needed.

Theme	Comment	Response
	The turbines will stop residential development, especially along the lakeshore.	The project design includes a setback from the shoreline communities which considered urban expansion outlined in the Lambton Shores Official Plan (Schedule C) We have also considered sensitive land areas (i.e First Nations areas and the local golf course) as well as environmentally sensitive areas. http://www.lambtonshores.ca/Docs/Schedule_C%20(WindEnergy).pdf
Natural Environment (11)	How do you propose to prevent the deaths of the 40 plus bird species on Lake Huron's major migratory route? A diverse number of birds and bats use Hubbard Line area as an important migratory stop. Travelling between lagoons in Forest and Cedar Cove around the clock.	As with all structures, there are encounters between turbines and birds and bats. The Project is subject to bird and bat mortality thresholds that have been developed by the Ministry of Natural Resources (MNR) to ensure the protection of population levels. Studies have been completed to document baseline environmental conditions including habitat related to migratory birds. Results have been provided in the Natural Heritage Assessment. If mortality exceeds the thresholds set out by the MNR, additional mitigation and contingency measures are required to be implemented. Suncor participated in and helped to fund a research project designed to identify and monitor the migratory behavior (flight paths and altitudes) of bats using specialized radar-acoustic technology. As a responsible energy developer, Suncor continuously strives to update our design and operating standards to ensure that our impact on the local environment is minimized.
	Concerned about turbines 45, 47, 48 and 39 because bald eagles and tundra swans migrate to these locations.	As part of the Natural Heritage Assessment (NHA), Suncor was required to identify Significant Wildlife Habitat (including habitat related to Tundra Swans and Bald Eagles) and incorporate applicable setbacks to such habitat in the design of the Project. Please see the NHA for additional information. The impact to the habitat of these species has been evaluated in the NHA and it has been concluded that there will be no impact to their habitat as it is not present within the Project's Zone of Investigation as defined by the Ministry of Natural Resources. The Project Boundary is within 5 km of the Lake Huron shoreline and there is potential for waterfowl stopover and staging areas to occur within it. The Thedford Flats Important Bird Area is located approximately 5 km from the Project Boundary and is known to support congregations of Tundra Swans; however, there are no known waterfowl stopover and staging areas within the Project Boundary. The only location found within the Project Boundary which had a congregation of Tundra Swans is the sewage lagoons

Theme	Comment	Response
		west of the Town of Forest. The sewage lagoons may provide a stopover area; however, sewage lagoons are not considered significant wildlife habitat as they are non-natural features. There are no known Bald Eagle nests within the Project Boundary; however Bald Eagles have been recorded in the Project Boundary. Habitat assessments within the Zone of Investigation did not detect any specialized nesting habitat for or nests of Bald Eagles. No significant wildlife habitat was present within the Zone of Investigation for Bald Eagle nesting, foraging and perching habitat. In order to provide protection to the species during operation, Suncor is required to conduct post-construction monitoring studies and implement contingency measures (such as periodic turbine shutdown) in the event that monitoring reveals the Project is having negative effects above the thresholds established by the Ministry of Natural Resources. Please see the NHA/Environmental Impact Statement for additional details related to the post-construction monitoring program and the thresholds which apply to the Project.
	The Hickory Creek Valley/Floodplain should not be used. It is a natural area with wildlife habitat that should be protected.	As part of the Natural Heritage Assessment, Suncor was required to identify Significant Wildlife Habitat throughout the entire project area and incorporate applicable setbacks to such habitat in the design of the Project. We are aware of the Hickory Creek Valley/Floodplain area and appropriate setbacks have been included in the project design. For additional information, please see the NHA and Water Assessment and Waterbody report (Section 4.6) posted on the Suncor website.
Consultation (9)	The Draft Site Plan Report has not been made available to the public.	The Draft Site Plan report and Revised Draft Site Plan Report have been available to the public since August, 2012 (at multiple viewing locations) and can be found on the project website at http://www.suncor.com/en/about/4797.aspx
	Would like to see an open meeting with a panel of your people to answer questions for all people to hear. The way the meeting is set up, conveys information but not question and answers for all to hear, it does not prove affective for those attending.	The format of the meeting provided stakeholders the opportunity to view project information (display boards) at their own pace, review existing literature, and ask project representatives specific questions on a one to one basis. It was also an opportunity for Suncor representatives to better understand the perspectives of our stakeholders so that their views are taken into consideration as we continue our project planning. We believe this approach leads to an effective way of communication between stakeholders and Project representatives. All comments and concerns received at the public meetings will continue to be recorded

Theme	Comment	Response
		and will be included as part of Suncor's Renewable Energy Approval (REA) Application to the Ministry of the Environment.
	Congratulations on a professional presentation under the circumstances. Keep up the great work!	Thank you for your comments. We appreciate all input received through the public consultation process and want to understand all points of view to build the best project possible.
	Would like to see someone local from Suncor. Instead you have people in attendance from out west who know nothing about this community.	At Suncor open houses, we have numerous people based in Ontario and Alberta who are available to answer questions and discuss our proposed wind power projects Various technical staff (e.g. biologists, risk assessors, scientists, etc.) along with Suncor representatives experienced in all facets of wind power project development and construction were present at the recent open houses.
	I read your responses to our community member concerns and I have never felt so dismissed. If you didn't plan to listen and make changes to your plans, you should not pretend to understand.	Thank you for your comments. Suncor appreciates all input received through the public consultation process and wants to understand all points of view to build the best project possible. The number of turbines being proposed for the Project has been reduced since the previous public meetings in part based upon the feedback of local stakeholders at the previous public meeting. (Previously 77 turbines were shown on the map, with a plan to build up to 62; today, our project plan shows 55 possible locations and 46 proposed to be constructed.) At previous open houses, Suncor requested stakeholders to identify the turbine(s) which most concerned them and this information was taken into consideration by Suncor when revising the Draft Site Plan. If you did not feel that your particular question was answered to your satisfaction, we would encourage you to contact Suncor directly through our email address of cedarpoint@suncor.com.
Noise (8)	Ensure the "as built" noise is the same as the study.	The Project must be operated in accordance with all approvals associated with the Project including those related to environmental noise.
	What would the sound level be at my residence as a result of nearby turbines?	We have designed the Project based on MOE regulations and the results can be found in our Draft Acoustic Assessment Report. We would encourage you to contact Suncor directly about your specific residence through our email address; cedarpoint@suncor.com.

Theme	Comment	Response
	I have an acute level of hearing, how will I be protected given my extra sensitivity to noise?	We have designed the Project based on MOE regulations and the results can be found in our noise impact report. We would encourage you to contact Suncor directly about your specific residence through our email address of cedarpoint@suncor.com.

Welcome

Kent Breeze Wind Power Project

We Are Here To:

- Introduce Suncor Energy Products Inc. to the community
- Present the proposed Project and provide a status update
- Provide an overview of the Renewable Energy Approval (REA) process
- Answer questions about the Project and outline next steps
- Receive the community's input and feedback for consideration by the Project Team in Project design and the REA process

Enercon Turbine at Ripley

Who Is Suncor?

- Suncor is one of the largest players in renewable energy in Canada (wind and biofuels)
- With increased demand for energy in this country, we support energy diversification and believe that renewable energy plays an important role in helping us to address air and water quality and provide solutions for greenhouse gas reductions
- We are committed to a "parallel path" for energy development, we build today's oil sands, conventional oil and natural gas resources while also bringing along new sources of energy for tomorrow
- We are dedicated to the safe and responsible development of renewable energy generation and have to date constructed 255 MW of wind power facilities across Canada – AB, SK, ON

Ripley Wind Power Project

The Business of Wind Power

- Suncor's current renewable energy projects (wind and biofuels) are expected to displace the equivalent of nearly 1 million tonnes of carbon dioxide yearly
- This is equal to the annual tailpipe emissions of approximately 200,000 cars
- Suncor's 6 producing wind farms are expected to generate enough electricity to power 100,000 homes

Project Name	Commissioning Date	Location	Capacity	Number of Turbines	Technology
SunBridge Wind Power Project	2002	Saskatchewan	11MW	17	660 kW Vestas turbines
Magrath Wind Power Project	2004	Alberta	30MW	20	1.5 MW General Electric turbines
Chin Chute Wind Power Project	2006	Alberta	30MW	20	1.5 MW General Electric turbines
Ripley Wind Power Project	2007	Ontario	76MW	38	2 MW Enercon turbines
Kent Breeze Wind Power Project	2011	Ontario	20MW	8	2.5 MW General Electric turbines
Wintering Hills Wind Power Project	2011	Alberta	88MW	55	1.6 MW General Electric turbines

Suncor Projects Under Development in Ontario

Project Name		Contract	Location	Capacity
Adelaide Wind Power Project		Feed-In-Tariff (FIT)	Middlesex County	Up to 40 MW
Camlachie Wind Power Project		No	Lambton County	Up to 20 MW
Cedar Point Wind Power Project	Phase I	No	Lambton County	Up to 50 MW
	Phase II	Feed-In-Tariff (FIT)	Lambton County	Up to 100 MW

Recently erected wind turbine at Kent Breeze Wind Power Project

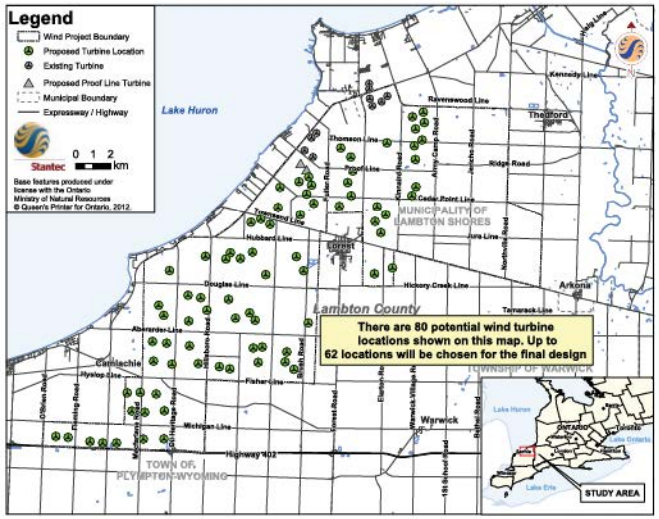
- Suncor has been developing three projects in Ontario
- Adelaide and Cedar Point Phase II are currently the only projects that have received a contract to deliver electricity to the Province
- Suncor continues to develop the Camlachie and Cedar Point Phase I project however contracts have not been awarded for these projects at this time

The Project

- Suncor is proposing to develop the Suncor Energy Cedar Point Wind Power Project (the Project)
- The Project was awarded a Feed-In-Tariff (FIT) contract with the Ontario Power Authority (OPA) on July 4, 2011
- The FIT Contract was for up to 100 MW which could consist of up to 62 wind turbines
- The number of turbines will be dependent upon final selection of make and model of the wind turbine most appropriate for the Project
- Additional components include; meteorological towers, access roads, electrical collector lines, substation, transmission line, and switching facility

Recently erected wind turbines at Ripley Wind Power Project

Draft Site Plan



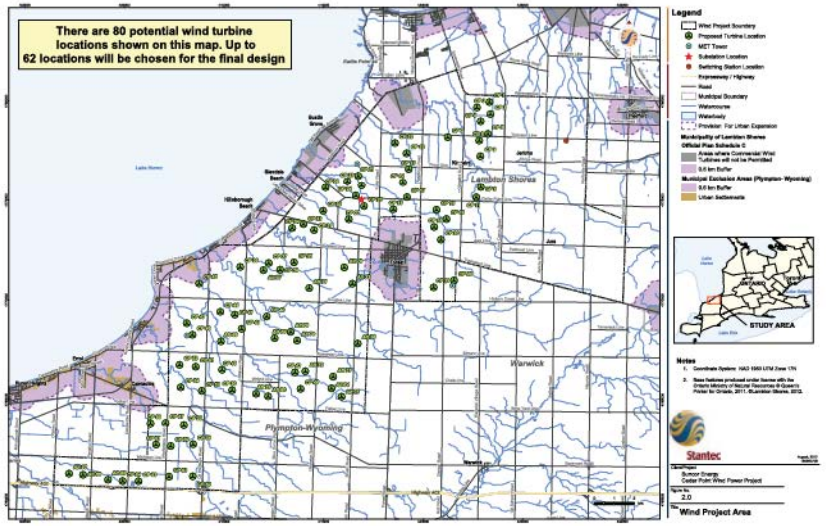
Why This Location?

- Good wind regime
- Compatible land uses – agricultural land
- Landowner interest
- Electrical interconnection – agreement with the Ontario Power Authority to feed power into the local grid
- Environment – based on studies to date, there will be a no/low impact on wildlife and natural features
- Local economic benefit – construction jobs, municipal tax revenue, supplemental income for farmers on participating lands
- Site access – good existing road infrastructure
- Accessible topography

First GE 2.5 MW turbine in North America - Kent Breeze Wind Power Project

WIND POWER PROJECT

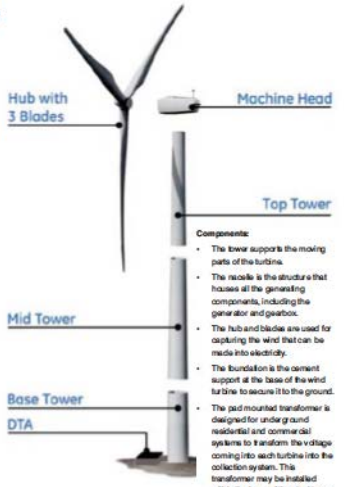
Provision for Urban Expansion



WIND POWER PROJECT

Wind Turbine Details

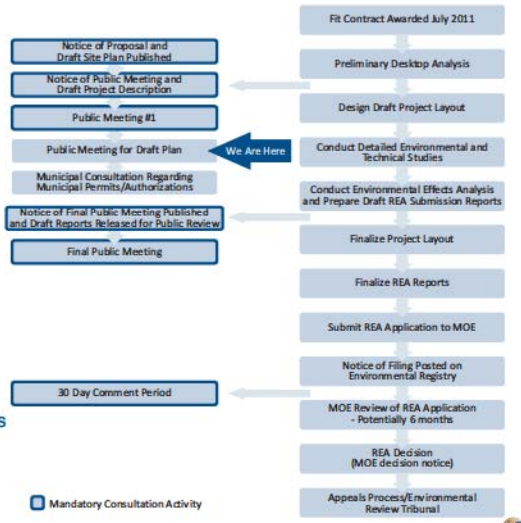
- The wind turbine manufacturer has not yet been selected, therefore the number of turbines has not yet been decided:
  - Number of turbines: Up to 62
  - Maximum nameplate capacity: 100 MW
  - Maximum Tower Height (both hub and blade length): 156 m
  - Maximum Rotor Diameter: 113 m



WIND POWER PROJECT

Renewable Energy Approval Process

- The *Green Energy and Green Economy Act (GEA)*, and related amendments to other provincial legislation, received Royal Assent in the Ontario Legislature on May 14, 2009
- The Project will require a Renewable Energy Approval (REA) according to Ontario Regulation 359/09 (REA under Part V0.1 of the Act) under the *Environmental Protection Act*
- This regulation became law on September 24, 2009, was amended on January 1, 2011, and replaces the previous *Ontario Environmental Assessment Act* process for wind projects
- Suncor is planning on submitting our REA application by the end of the year



WIND POWER PROJECT

Municipal Control

Key Permit / Authorization	Rationale	Timing
Municipal Consultation Form	To be provided to each municipality in which the project is located. To bring forward issues related to municipal serving and infrastructure that the proponent must consider	30 days before the first Public Meeting
Municipal Review of Draft Renewable Energy Approval (REA) Reports	Provide additional time for the municipality to review the REA documents and provide comment	90 days before the final Public Meeting
Municipal Consent, Work within the municipal R.O.W	Required for works in municipal road allowances	Before construction
Road Cut Permit	May be required for access roads from county roads or works to county roads	Before construction
Pre-Condition Road Survey	Assessment of pre-construction road conditions for engineering staff	Before construction
Building Permit	Compliance with building codes	Before construction
Entrance Permit	Entrance from county roads	Before construction
Transportation Plan	Adherence to road safety and suitability	Before construction
Additional Plans related to general engineering (e.g. siltation control, lot grading, plan of services, storm water, transportation, etc.)	Required supporting information/plans	Before construction
Municipal Road Right of Way Requisition Agreement	Establish requirements to return roads to agreed upon state	Before construction

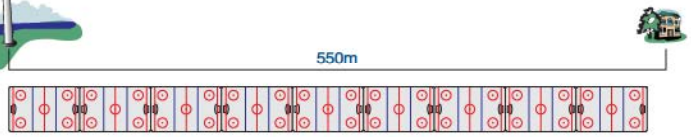
Renewable Energy Approval Process Setbacks

- A key component of the Renewable Energy Approval (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 for environmental features, additional analysis (i.e., Environmental Impact Study) will be provided in the REA application
- Key setbacks that will be applied throughout the design of the Project are as follows:

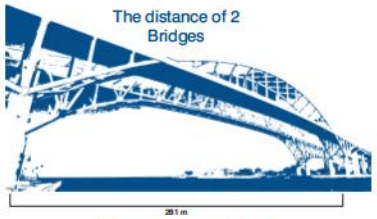
Feature	Setback Distance
Non-participating dwelling, school, etc.	40dBA and minimum 550 m (from centre of turbine base)
Public road right-of-way and railway right-of-way	Turbine blade length + 10 m (from centre of turbine base)
Property line	Turbine height (excluding blades) (from centre of turbine base)
Provincially significant wetland (PSW)	120 m (development prohibited within PSW)
Provincially significant Area of Natural and Scientific Interest (Earth Science)	50 m
Provincially significant Area of Natural and Scientific Interest (Life Science)	120 m
Significant valleyland	120 m
Significant woodland	120 m
Significant wildlife habitat	120 m
Lake or a permanent or intermittent stream	120 m from the average annual high water mark
Seepage area	120 m

Turbine Setback Distances

Distance from a Wind Turbine to a house 550m

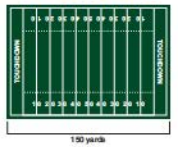


The distance of 2 Bridges



Bluewater Bridge 281m

The distance of more than 4 CFL Football Field's



Football Field 137m

The distance of more than 9 NHL Hockey Rink's

Hockey Rink 60m

* Scale is Approximate.

Reports Included in a Renewable Energy Approval Application

- **Project Description Report** (a working Draft is already posted on the Project website) – provides an overview of the Project
- **Construction Plan Report** – describes the activities associated with construction and identifies any potential effects resulting from construction of the project
- **Design and Operations Report** – describes the activities associated with operation of the project and identifies any potential effects resulting from operation of the project
- **Noise Study Report** – Ensures the project is in compliance with noise regulations
- **Natural Heritage Assessment & Environmental Impact Study** (includes technical studies for wildlife and wildlife habitat) – identifies potential effects on natural environment
- **Consultation Report** – Demonstrates how Suncor engaged with various stakeholders through the development of the project
- **Archaeological and Cultural Heritage Report** – identifies potential effects on archaeological or cultural heritage resources
- **Water Body and Water Assessment Report** – identifies potential effects on streams, rivers, seepage areas and lakes
- **Wind Turbine Specifications Report** – describes the turbine technology selected for the project
- **Decommissioning Plan Report** – describes the activities associated with decommissioning the project and identifies any potential effects resulting from decommissioning the project

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 Meeting. Notification of the release of the draft reports will be provided in newspapers and on the Project website

Natural Heritage Assessment

- The Natural Heritage Assessment is made up of 3 to 4 components: Record Review, Site Investigation, Evaluation of Significance, and Environmental Impact Assessment (if applicable)
- Currently, the Record Review for the Project has been completed
- The Site Investigation has been underway since September, 2011
- For the Records Review background data were collected and reviewed to identify natural features located in or within 120 m of the Project Location
- The results of the Record Review are as follows:

Natural Feature	Result
Wetlands	• One locally significant wetland, Uttoxeter Swamp, was located within 120 m. • Site investigations are underway to identify previously unknown wetland features.
Woodlands	• 121 woodlands of at least 4 ha in size in the Project Boundary. • 48 were identified within 120m. • Site investigations are underway to confirm presence and boundaries of woodlands.
Valleylands	• No valleylands are present within 120 m of the Project Location.

Wildlife Habitat	The following natural features have either been confirmed or have the potential to be found within 120 m of the Project Location.
	• Seasonal concentration areas
	  ◦ Colonial bird nesting sites
	  ◦ Waterfowl stopover, staging & nesting sites
	  ◦ Winter raptor feeding & roosting areas
	  ◦ Reptile hibernacula
	  ◦ Bullfrog concentration areas
	  ◦ Winter Deer yards
	  ◦ Shorebird migratory stopover areas
	  ◦ Hardbird migratory stopover areas
	  ◦ Migratory butterfly stopover areas
	  ◦ Bat maturnity roosting areas
	• Rare vegetation communities or specialized habitats
	  ◦ Habitats of forest bird species
	  ◦ Old growth or mature forest stands
	  ◦ Foraging areas
	  ◦ Amphibian woodland breeding ponds
	  ◦ Turtle nesting habitat
	  ◦ Specialized raptor nesting habitat
	  ◦ Mink denning sites
	  ◦ Cliffs
	  ◦ Seeps and springs
	• Species of conservation concern
	  ◦ Rare species & declining bird populations
	• Animal movement
	  ◦ Hedgerows
	Site investigations are underway to confirm presence and boundaries of candidate significant wildlife habitat.

Areas of Natural & Scientific Interest (ANSI)	• No Life Science ANSIs were identified within 120 m of the Project Location. • No Earth Science ANSIS were located within 50 m of the Project Location.
Natural Features in Specified Provincial Plan Areas	• The Project is not located within any provincial plan areas.
Provincial Parks and Conservation Areas	• There are no provincial parks or conservation reserves within 120 m of the Project Location.

Archaeological Assessment

- A Stage 1 Archaeological Assessment (a desktop archaeological study) was completed to determine the archaeological potential for both Pre-Contact Aboriginal and Euro-Canadian cultural remains within the Project Location
  - The results of the Stage 1 indicated that further archaeological studies would be required
- A Stage 2 Archaeological Assessment began in the Spring of 2011. The Stage 2 field assessment provided an inventory of archaeological sites on the proposed Project lands
- Findings from the archaeological assessments will be considered in the Project design to minimize impacts as much as possible
- The Archeological Assessment Reports have been submitted to the Ministry of Tourism, Culture, and Sport for acceptance into the Ontario Public Register of Archeological Reports

Within the Suncor Adelaide Wind Power Project Boundary

Project Schedule Overview

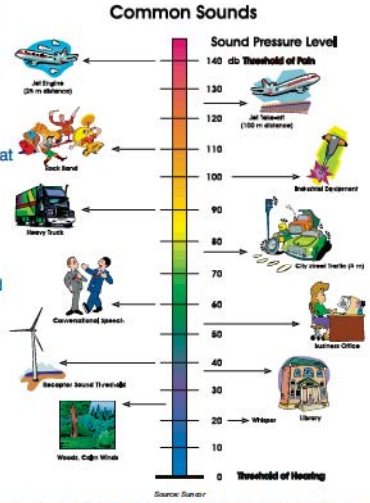
Activity	Dates
REA Technical Studies and Consultation	2011 and 2012
Notice of Proposal	March 2012
Public Meeting #1	April 2012
Public Meeting - Draft Site Plan	August 2012
Consultation with Municipality - Permits/Authorizations	Summer/Fall 2012
Draft REA Reports to Public	Fall 2012
Public Meeting #2	Fall 2012
REA Submission	Fall 2012
Start of Construction	Summer 2013
Commercial Operation Date	Summer 2014
Repowering/Decommissioning	Approximately 20 years after COD

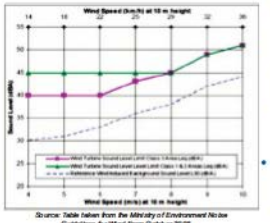
Acronyms:
REA – Renewable Energy Approval
COD – Commercial Operation Date

Preparation of nolar installation - Wintering Hills Wind Power Project

Typical Sound Levels and Wind Farms

- There are two potential sources of sound typically associated with wind turbines:
  - **Aerodynamic** - blades pass through the air and create a "swishing" sound
  - **Mechanical** – originated from the gearbox and generator that are housed in the nacelle
- A project this size requires a Noise Assessment Report be completed to ensure the project complies with Ministry of Environment requirements
- The Noise Assessment will consider other operational or proposed wind facilities within a 3 km radius of a proposed turbine location
- Turbines have been and will continue to be sited to ensure compliance with Ministry of Environment requirements, including being located a minimum of 550 m from non-participating receptors (residents)





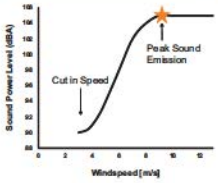
Source: Table taken from the Ministry of Environment Noise Guidelines for Wind Farm October 2008.

- The Project is located in a Class 3 area, which is defined as "a rural area with an acoustical environment that is dominated by natural sounds having little or no road traffic" as per the MOE Noise Guideline

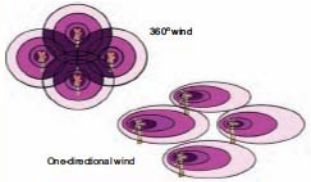
Sound Propagation, Modeling and Assessment

Sound Generation

How Sound is Emitted...

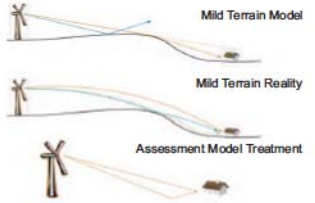


1. The maximum amount of sound emitted by the turbines are used in assessments.

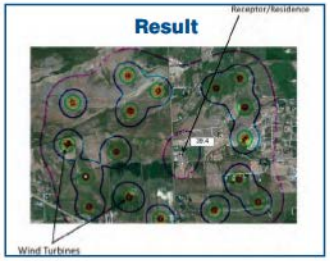


2. Houses are modeled as if they are downwind from all turbines all the time.

3. Selection of ground conditions should be conservative and based on conditions at the receptor.



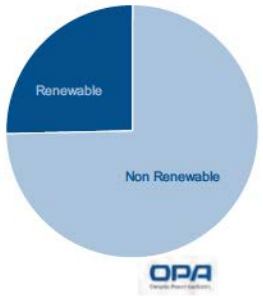
4. Terrain can block sound but only extreme terrain changes are considered. Mild terrain can be misinterpreted, so caution is required.



Ontario Power Supply Mix

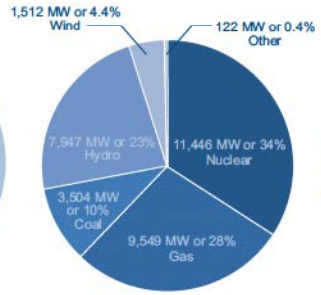
Ontario Installed Supply Capacity*

2009



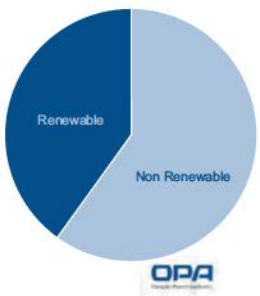
Ontario Supply Mix**

2012



Projected Ontario Installed Supply Capacity*

2014



*From OPA 15899_Ontarios_Renewable_Energy_Feed-in_Tariff_Program.pdf
** based on IESO January 31, 2012 Supply Mix

Community Benefits

- Job creation
- New local investment
- Secondary source of income for farmers and landowners
- Additional tax payments to local municipalities (for a 100 MW project approximately $175,000/yr)
- Small project footprint
- Provide a new supply of safe, clean and reliable electricity
- Helps meet Ontario's commitment to renewable energy and phasing out of coal-fired power plants to reduce healthcare costs

Within the Suncor Cedar Point Wind Power Project Boundary

Environmental Benefits

- It's operation is pollution free
- It doesn't contribute to smog or acid rain
- It utilizes a completely renewable resource which is free
- Generating electricity from wind leaves behind no hazardous or toxic wastes and does not contribute to climate change
- Zero emissions – helps meet forecasted energy supply requirements while reducing greenhouse gas levels

Environmental Impact of Electricity Sources

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

Source: AWEA fact sheet "Wind Energy and Wildlife" not wind, the n...?

Health and Wind Power

Public health and safety will be considered during all stages of the Project

- Many studies have been conducted world-wide to examine the relationship between wind turbines and possible human health effects
- In Ontario "Ontario doctors, nurses, and other health professionals support energy conservation combined with wind and solar power – to help us move away from coal"

Ontario College of Family Physicians, Registered Nurses Association of Ontario, Canadian Association of Physicians for the Environment, Physicians for Global Survival, the Asthma Society of Canada, and the Lung Association

- In "The Potential Health Impact of Wind Turbines" (May 2010), Ontario's Chief Medical Officer of Health recently examined the scientific literature related to wind turbines and public health, considering potential effects, such as dizziness, headaches, and sleep disturbance. The report concluded that:
  - *"…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 report also concluded that 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, the report states that there is no scientific evidence to date that vibration from low frequency wind turbine noise causes adverse health effects
- Overall, health and medical agencies agree that sound from wind turbines is not loud enough to cause hearing impairment and is not causally related to adverse effects*
- Scientists and medical experts around the world continue to publish research in this area. Through our health consultants, Suncor Energy is committed to keeping informed on this issue

*e.g., Chatham-Kent Public Health Unit, 2008; Minnesota Department of Health, 2009; Australian Government, National Health and Medical Research Council, 2010; Australian Government, 2011, Massachusetts Department of Environmental Protection (MassDEP) and Massachusetts Department of Public Health (MDPH), 2012

SUNCOR ENERGY

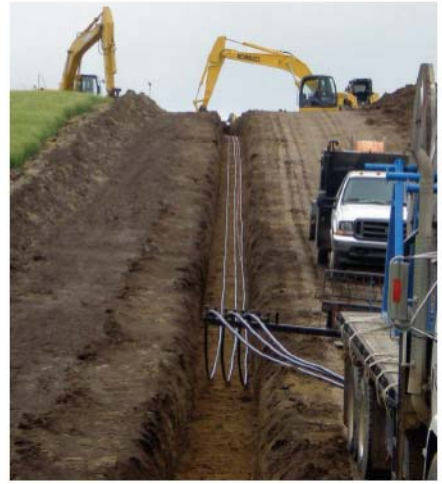
WIND POWER PROJECT

Construction at Suncor's Wintering Hills Wind Power Project

SUNCOR ENERGY

WIND POWER PROJECT

Construction at Suncor's Wintering Hills Wind Power Project



SUNCOR ENERGY

WIND POWER PROJECT

Construction at Suncor's Wintering Hills Wind Power Project

SUNCOR ENERGY

WIND POWER PROJECT

Construction at Suncor's Wintering Hills Wind Power Project

SUNCOR ENERGY

WIND POWER PROJECT

Suncor's Ripley Wind Power Project

SUNCOR ENERGY

WIND POWER PROJECT

Questions and Answers from Public Meetings

During our first Public Meetings we received many comments relating to the Project. Each of these comments were taken into consideration while developing the Draft Site Plan. A response document to public comments is available on the project website (www.suncor.com/cedarpointwind) and is also available at the front desk.

Within the Suncor Cedar Point Wind Power Project Boundary

SUNCOR ENERGY

WIND POWER PROJECT

How to have your Questions Answered:

- Ask the Project Team
- Fill out a Comment Card and hand it in or mail it back a postage paid postcard
- Take time to read the information panels around the room
- Review the Studies and Reports available on the tables and on the Project Website
- Visit the Project Website: www.suncor.com/cedarpoint
- Send us an email: cedarpoint@suncor.com
- Give us a call: 1-866-344-0178
- Mail us a letter: Suncor Energy
  P.O. Box 2844,150 6th Ave SW
  Calgary, AB
  Canada, T2P 3E3

Within the Suncor Cedar Point Wind Power Project Boundary

SUNCOR ENERGY

WIND POWER PROJECT

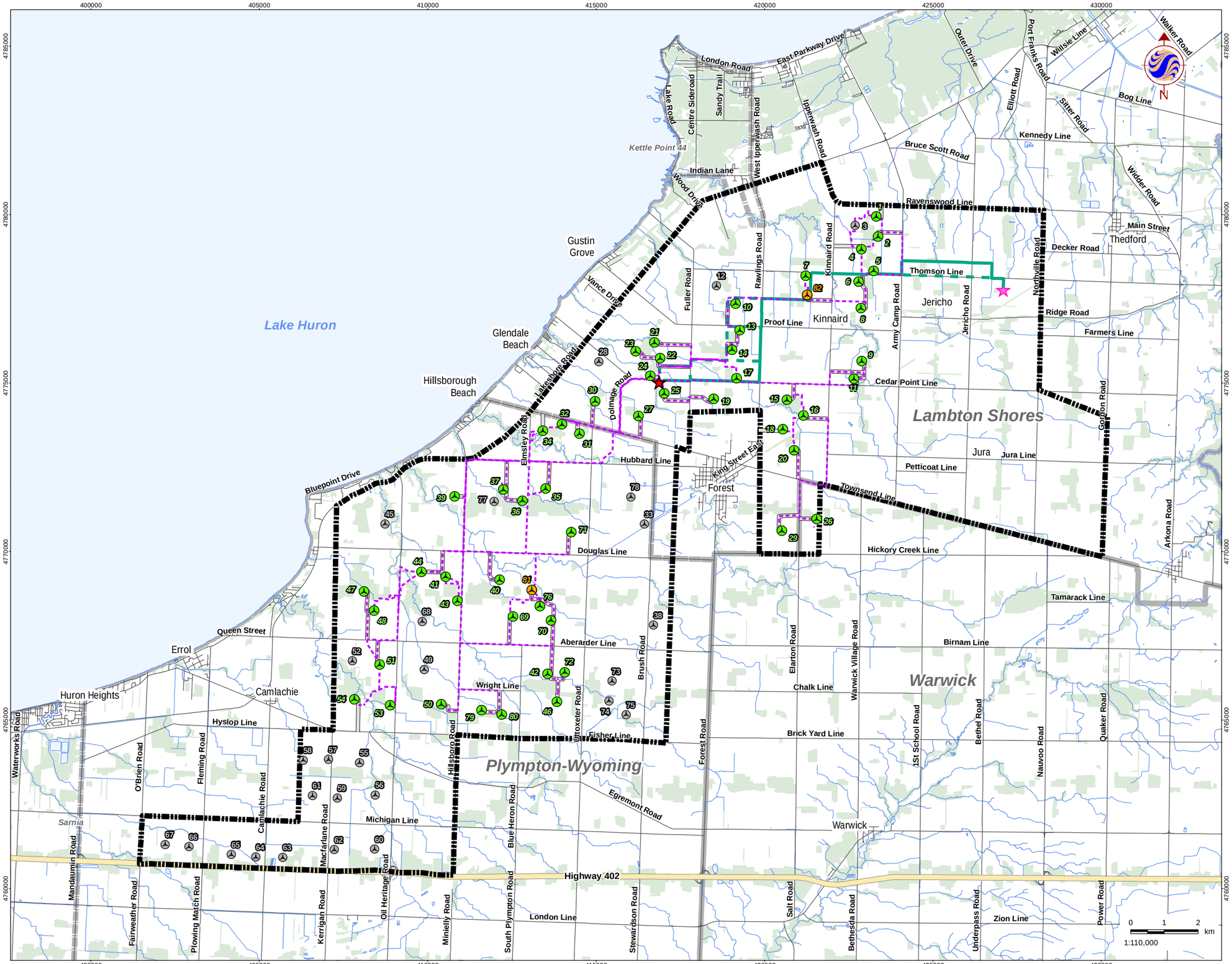
Within the Suncor Adelaide Wind Power Project Boundary

Thank You

Thank you for attending our Project Open House

We appreciate you taking the time to come and learn about our Project

If you would like to be added to the Project mailing list please sign in at the front



Legend

- Project Boundary

Proposed Project Components

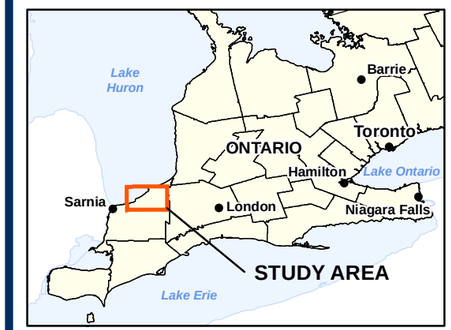
- Turbine
- Turbine- New
- Turbine- Removed
- Substation
- Access Road
- Collector Line
- Transmission Line
- Transmission Line Alternate Route

Other Infrastructure

- Substation- NextEra Jericho

Existing Features

- Expressway / Highway
- Road
- Wooded Area
- Watercourse
- Waterbody
- Municipal Boundary



Notes

1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.

Stantec

January, 2013
160960709

Client/Project
Suncor Energy
Cedar Point Wind Power Project

Figure No.
1.1

Title
Project Location Comparison

W:\active\60960709\drawing\MXD\REA_Reports\DraftSitePlan\160960709_Fig1_1_ProjectLocationComparision_20130124.mxd
Revised: 2013-01-24 By: dharvey

Suncor Energy Cedar Point Wind Power Project
April 2, 3 and 4, 2013 Public Meeting Comment Response Table

The following table summarizes the comments received during and after the April 2-4, 2013 Public Meetings for the Suncor Energy Cedar Point Wind Project (the Project) and received by April 5, 2013. The number in the bracket beside each theme indicates the number of similar comments received via the comment card and email address. In addition, Suncor received 564 copies of a form letter of objection from local residents from April 2-9, 2013, along with approximately 2,500 signatures on a petition that was hand delivered by WAIT – PW (We're Against Industrial Turbines – Plympton-Wyoming) at the final Public Meeting on April 4, 2013. Of the letter of objection and petition signatures, approximately 4% were from residents outside of the Project area (e.g. Kitchener, Hamilton, etc.).

Theme	Comment	Response
Cost (10)	Why do we pay the United States to take all surplus power from Ontario? Why are we building the turbines when we don't need the power and have to give it away?	Ontario is connected to neighbouring electrical regions and electricity flows back and forth according to supply and demand. The electricity market in North America including Ontario is settled and balanced every five minutes. This includes settlements with adjacent provinces or states. The price paid for imported/exported electricity from the United States and other markets fluctuates with market demand, although, the Independent Electricity System Operator (IESO) has recently set the minimum price for exported power to $0 per megawatt hour. To find out more about the Ontario energy market and how it is operated please go to: www.ieso.ca New power plants are required to meet the increasing demand for electricity and to replace aging power plants.
	Require additional information about the 10% discount to the Maui Hawaii Wind Farm.	We are unsure of what discount you are referring to. Hawaii does have an initiative to increase renewable power generation in an effort to decrease their dependence on oil imports for power generation. There are a set of increasing targets for renewable power generation, please refer to www.heco.com for more information.

Theme	Comment	Response
	Concern about the turbines being too costly and too far away from where the electricity is used. I can't afford the power.	Utilities around the world continue to recognize the value wind energy can play within a larger interconnected electrical transmission system as a cost competitive form of new build generation. This project will deliver power to the Ontario transmission system which delivers electrical power to all of Ontario, including the local area to the project. The transmission system is designed and sized to deliver power to the electrical loads both as they currently exist, and as new electrical loads are brought online.
	How much energy surplus will be created by wind turbines? And at what additional cost per kilowatt to produce? Do we not already have in place cheap domestic energy?	The project is contracted to deliver power to replace infrastructure that will be decommissioned and to meet increased demand. The cost of the power produced is set by the Ontario Power Authority (OPA) at the contract rate of 13.5 cents per kW-hour. Existing forms of generation have varying life spans, and the OPA is issuing contracts for wind power to replace and augment existing generation.
	How can this ever be economically feasible unless we get the jobs back in this province from China, US or elsewhere?	The Feed in Tariff (FIT) program includes a domestic content requirement which requires projects to use components manufactured in Ontario. Ontario's Green Energy Act, its regulations and the design of the FIT program have attracted manufacturers of renewable energy components to Ontario to spur the economy and generate jobs. For example, Suncor is proposing to use blades manufactured in Tillsonburg; steel plates from an Ontario foundry; tower sections and heat exchangers manufactured in Ontario and consultants, accountants and legal counsel who are residents of Ontario.
	Are the economics viable for Ontarians as an investment? Without the feed in tariff there would be no	As a new build form of generation, the economics of wind energy are viable compared to other new build generation options. It would be inaccurate to compare the costs of new power generation to existing power plants. In order

Theme	Comment	Response
	turbines.	to make an accurate comparison, one must measure the costs for various types of new power plants. The contract rates were set by the provincial government to incent green energy development in Ontario and create jobs. As technology has improved over time, wind projects are proven to compete with other forms of new generation and can operate without government subsidy.
Support	I am in support of wind energy for the benefit of society and as a good replacement to coal.	Thank you for your comments. We appreciate all input received through the public consultation process and want to understand all points of view to build the best project possible.
Health (10)	I question the "data clearly concludes that wind turbines are not harmful to human health" when Nina Pierpont has done a study that clearly concludes that there are health issues. Even the province has admitted that there are negative health effects.	Suncor has been part of the Canadian wind industry for more than 10 years and continues to monitor studies and scientific information related to health effects and wind power projects. The Ontario Chief Medical Officer's 2010 report, which included a review of Nina Pierpont's research that you refer to, concluded that there is 'no scientific evidence of any direct causal link between wind turbines and adverse health effects. http://health.gov.on.ca/en/common/ministry/publications/reports/wind_turbine/wind_turbine.pdf
	Why can't you wait until the Federal Health Study is completed?	Health Canada, in collaboration with Statistics Canada, announced that it will conduct a research study to explore the relationship between wind turbine noise and health effects reported by, and objectively measured in, people living near wind power developments. Suncor is supportive of additional peer reviewed scientific studies on the topic and is committed to improving our best practices of wind power project design and operation as these studies draw scientifically peer reviewed conclusions on the topic. Suncor has contractual commitments related to the in-service date for the

Theme	Comment	Response
		Cedar Point wind power project, if approved. At the current time, those contractual obligations do not allow for a delay until the completion of the federal health study.
	People are upset about the health effects on people, (especially children), livestock and pets. Scientists have not studied the full effects of these wind projects. Have suffered sleeplessness at the Proof Line/Lakeshore wind farm and have sold the farm and moving to Sarnia I believe children are sensitive to turbines. What will you do for me if my children get adverse health effects from your turbines?	Suncor has been part of the Canadian wind industry for more than 10 years and continues to monitor studies and scientific information related to health effects and wind power projects. *According to www.WINDFACTS.CA:* *"The balance of scientific evidence and human experience to date clearly concludes that wind turbines are not harmful to human health – in fact, wind energy reduces harmful air emissions and creates no harmful waste products when compared with other sources of electricity.* *This conclusion has been reached by numerous independent reviews of the scientific literature.* *The global wind industry collectively continues to engage with experts in science, medicine and occupational and environmental health to monitor ongoing credible research in the area of wind turbines and human health."* The Ontario Chief Medical Officer's 2010 report concluded that there is 'no scientific evidence of any direct causal link between wind turbines and adverse health effects. http://health.gov.on.ca/en/common/ministry/publications/reports/wind_turbine/wind_turbine.pdf If the project is approved and constructed, there will be contact information available for the wind power project. Suncor will follow up regarding concerns raised in the event that they arise once the project is operational.

Theme	Comment	Response
Property Values (4)	There are conflicting views on the effects of wind power projects on property value.	There are conflicting views on the effects of wind power projects on property value. Two recent studies conducted in southern Ontario (Municipality of Chatham-Kent (2010) and Township of Melancthon, Township of East Luther Grand Valley and County of Dufferin (2006)) both indicate that there was no decrease in the property value due to the construction of wind power projects in the area. In addition, REMAX Market Trends Farm Edition 2011, indicated significant increases in the price of farmland from 2010 values across Ontario. The report also mentioned that additional sources of income from solar panels, windmills and gas leases can potentially net the average farm additional income above and beyond crop value on their land, which in part, has contributed to increases in farmland prices. A recent case study published on www.ontario-wind-resistance.org was provided to Suncor. The case study "Diminution in Value – Wind Turbine Analysis" was completed by Lansink Appraisals and Consulting. The report focuses on 5 properties within the wind farm purchased and sold by the wind farm operator. CanWEA is reviewing the details of the report and has identified areas of concern with respect to the design and results of this study. Suncor continues to stay abreast of this review. http://www.canwea.ca/news/release/release_e.php?newsId=159 Suncor will continue to review third party studies related to property values
Property	We own 50 acres that is currently	The development process requires wind developers to place a "vacant lot

Theme	Comment	Response
Rights (2)	building free. We want to be able to build anywhere on this land, with no restrictions due to a tower. With turbines being so close to neighbours, you are taking away people's right to develop their own properties beside the turbines.	receptor" in a location that is consistent with typical building patterns on any parcel that does not currently have a residence or an active building permit for a residence on that parcel. In effect, this protects the ability for any landowner in the project area to develop their properties and have all the same protections in terms of setbacks and sound exposure as an existing residence. The right to build on your property is not affected by the current provincial regulations associated with wind turbines. These regulations are only specific to where turbines are placed in relation to existing homes, and not vice versa.
Opposition (18)	I am in opposition of the project.	Thank you for your comments. We appreciate all input received through the public consultation process and want to understand all points of view to build the best project possible.
Safety (3)	How far will ice fly off of the blades?	The turbines have operational controls (based on environmental conditions and equipment sensors) to prevent operation during blade icing events. Turbines are designed to monitor changes in conditions for icing which will stop the turbine to prevent unsafe operation.
	How far will pieces of the wind turbine fly if a fire occurs?	It is important to note that the turbine model selected for this project does not have a gear box. This will dramatically reduce the quantity of lubricating oil present in the nacelle. In the event of a fire, the fire detection systems would shut down the turbine. As with all of Suncor's wind projects, this project will have an emergency response plan in which details the emergency response duties for Suncor and for municipal emergency response teams. Typically, the role of municipal emergency response is to assist Suncor in preventing access of the public onto the site while Suncor or their designate manages the emergency response on site.

Theme	Comment	Response
Alternative Technology (3)	Why are you not pursuing solar instead of wind turbines.	As an integrated energy company, Suncor is committed to developing and supplying energy options that meet the needs of both today and tomorrow. We believe that wind power – a clean, safe, and renewable energy source - is an important part of Canada's future energy mix. Suncor has focused on wind and biofuels at this time. While we are not currently involved in solar power generation, we continue to stay abreast with these opportunities.
	Why can't Suncor buy the Ontario Lambton Generating station in Port Lambton and convert coal to natural gas or biofuels or another green fuel.	That type of project is not currently part of Suncor's business strategy for energy development.
Technology (4)	Suncor's, as well as other IWT project proposals, cannot meet the Government objective to replace base load coal generation. Because of the irregular winds in Southern Ontario, the output factor of the IWT can be as low as 0.3%. In general, the power output fluctuates between 10% and 30% of the installed IWT capacity. IWT's in Southern Ontario can only be considered a supplementary power source. To place these huge turbines in families' backyards is immoral and destructive. It is a crime.	Utilities around the world continue to recognize the value wind energy can play within a larger interconnected electrical transmission system as a cost competitive form of new build generation. Wind is an intermittent resource. Wind alone cannot replace baseload generation and does require a balanced energy system with other forms of generation to provide power when the wind is not blowing.
	Require additional information about storage batteries.	Energy produced by the Project will be sent into the provincial power grid. The Independent Electricity System Operator (IESO) manages the overall supply

Theme	Comment	Response
		and demand balance for Ontario. This Project does not have any storage capabilities planned. Battery storage for utility grid scale energy storage is still in the development stage. Suncor is committed to understanding how battery storage can be deployed with wind turbines. Suncor, along with its partner at Wintering Hills, has submitted a funding request to the Climate Change and Emissions Management Corporation (CCEMC) to support a demonstration scale project to understand and demonstrate the viability of battery storage. For more information please refer to http://ccemc.ca/wp-content/uploads/2012/12/Renewable-Energy-Website-Project-Descriptions.pdf
	What is or are there any limitations on future expansions of turbine generator sizes already installed?	Once installed the turbines cannot easily be expanded in size to higher output ratings. The mechanical limits of the towers and foundations, electrical limits of the collection system, and sound output profile used to model the project may restrict significant changes to the turbines at their locations.
	How long will it be before the turbines look worn and rusty and an “eyesore”	Suncor intends to maintain the equipment regarding both appearance and function for the life of the project.
Tourism	The wind turbines have a negative impact on tourism	Renewable energy projects can be marketed as a tourism feature which may result in additional economic benefits to the local community. According to information provided by our industry association, CanWEA, “Wind projects are objects of fascination for many and, as such, can generate tourism for the local community. Some wind projects get thousands of visits a

Theme	Comment	Response
		year and the benefits of that amount of visitors to a community can be felt by many businesses including shops, restaurants and hotels and motels."
Land use (4)	The wind turbines are taking up valuable farm land. Eating and growing locally owned produce is green as well. Why are we putting these turbines in good farming areas?	Suncor has met with each landowner with proposed infrastructure on their property and discussed how our infrastructure can coexist on their property with their own ongoing operations. A 100 acre property with a single wind turbine would lose between 1 and 2 acres of land from agricultural production.
Setback (6)	Why wouldn't you keep turbines away from schools? People feel that they should be kept 2 km away. We need to know what options there are if we don't want to send our children to Aberarder School. We don't want these turbines surrounding this school.	In response to stakeholder concerns at previous open houses Suncor removed turbines 68 and 49 from our proposed layout which were 1,023 m and 1,182 m, from the school respectively. As a result, the closest proposed turbine to the Aberarder School (Turbine 43) is 1,207 m away.
	It is the expectation that Suncor can meet or exceed guidelines to improve their image. How does Suncor feel about locating wind turbines on a massive scale closer to people's homes than has been done anywhere else in the world, Take note what other countries and provinces are doing – set backs of 2km are a must.	The 550 m setback is a minimum distance requirement set by the Ministry of the Environment.(MOE). In addition, the sound level at each 'receptor' (which is a MOE regulatory term that includes houses, schools, etc.) cannot exceed the MOE noise criteria. This generally causes the distance between a turbine and a house to be greater than 550 metres. On average, the distance from Suncor's proposed turbines to the nearest house is 734 metres. This average increases to 771 metres when measuring only to non-participating residences. When developing requirements, the Ministry of the Environment used existing scientific research from around the world. For a list of studies supporting the Ministry of the Environment's decisions related to setbacks, please visit http://www.ene.gov.on.ca/stdprodconsume/groups/lr/@ene/documents/native

Theme	Comment	Response
		docs/stdprod_085127.pdf
	I am requesting more information about setbacks from property line.	Turbine setbacks to property lines are directly related to the dimensions of the turbine (e.g. hub height or blade length plus 10 m). Thus, the larger the turbine proposed, the greater the setback required to property lines. Additional information is provided in the Property Line Setback Assessment (Attachment D to the Design and Operations Report).
	Suncor is forcing a 500 foot unsafe setback without accepting the safer minimum of 2km setback of the local government of Plympton-Wyoming by taking its citizens to court.	Provincial regulations set out the guidelines for setback in order to protect public health and safety. Our project is designed in accordance with these provincial regulations. Suncor is not using a 500 foot setback. The minimum allowable is 550 meters. On average, the distance from Suncor's proposed turbines to the nearest house is 734 metres. This average increases to 771 metres when measuring only to non-participating residences.
Location (10)	Why don't you move the turbines to remote areas and conduct R&D around efficient transmission. Turbines are industrial and belong in an industrial location (i.e. in the North or other sparsely populated areas would make a better location). Place the 9 alternate turbine locations in the back yards of the Provincial politicians and Suncor employees that want them.	The project is located based on a number of factors, including wind resource and proximity to a transmission system with available capacity. Locating any form of power generation long distances from the areas where power is used creates significant transmission losses (loss of electricity due to resistance of electrical transmission lines), and is considerably more costly. There are currently transmission constraints in the Northern Ontario grid limiting the amount of generation that can reach more populated areas.

Theme	Comment	Response
	Units 41, 43, 44, 47, 48, 50, 51, 53 and 54 are all too close. Please eliminate turbine 71 due to proximity to four residential properties Turbines 31, 32, 34, 35 should be removed due to concerns over children sensitivity and bird migration. Eliminate turbine 39 (will impact my family and my sons family). Also impacting my family is 44, 47,48 and 41. #39 (this one is too close to the lake and development), #30 the neighbour on Lakeshore Rd has an airfield. Turbines 31, 32, 34, 35 are of major concern to us. We have had no say where these turbines will go and three of them will be our new backyard view. Please set back turbine 18 in line with others. Shadow flicker, in line with King St may cause “drive-offs” at the curve, inhibits future north expansion sic (of Forest).	We thank you for your comments. We currently have 9 alternate positions, we will take these comments into consideration as we continue to develop our project.
Natural	Suncor will be destroying natural	As with all structures, there are encounters between turbines and birds and

Theme	Comment	Response
Environment (4)	habitat of animals and birds. What are the effects on migratory birds?	bats. The Project is subject to bird and bat mortality thresholds that have been developed by the Ministry of Natural Resources (MNR) to ensure the protection of population levels. Studies have been completed to document baseline environmental conditions including habitat related to migratory birds. Results have been provided in the Natural Heritage Assessment. Once in operation, the project is required to monitor mortality levels of birds and bats in the area of the turbines, for a period of at least 2 years. If mortality exceeds the thresholds set out by the MNR, additional mitigation and contingency measures are required to be implemented. Suncor participated in and helped to fund a research project designed to identify and monitor the migratory behavior (flight paths and altitudes) of bats using specialized radar-acoustic technology. As a responsible energy developer, Suncor continuously strives to update our design and operating standards to ensure that our impact on the local environment is minimized.
Consultation (14)	Talk to Ontario about Municipalities being given priority for emergency power based on installed megawatts.	Thank you for your comment. We will forward your suggestion to the Ontario government.
	Felt there was very little consultation with the community in “Do we want these?” because of the Green Energy Act. Why doesn’t Suncor hold an open meeting instead of these useless open houses.	The format of the meeting provided stakeholders the opportunity to view project information (display boards) at their own pace, review existing literature, and ask project representatives specific questions on a one to one basis. We believe this approach leads to the most effective way of communication between stakeholders and Project representatives.
	The project is dividing the community and creating tension between neighbours.	We recognize that support for our projects, and for wind energy development in general is not unanimous. We appreciate all input received through the public consultation process and

Theme	Comment	Response
		want to understand all points of view to build the best project possible.
	There has not been a democratic process to approve all the turbines among communities. We live here, grew up here, have emotional connections to the area, we want to raise our children here. In some cases, the turbines are closer to our homes than the farmers who signed leases. This is not fair. We should be either reimbursed for the loss of enjoyment and property values or the turbines should be removed.	The vehicle that has been established by the regulators to receive public input is through the public consultation process. We encourage residents to express their opinions to their local political representatives. At the same time, we are continuing to receive feedback from the community and will use that input to build the best project possible.
	Public needs to know ahead of time and where all transmission lines and feeders will be located.	Suncor has selected and shown the locations of collection and transmission lines including which side of the road they are proposed to be located on. Please refer to the draft Project Description Report, figures 2.1 to 2.10. This report can be found on the Cedar Point Website. www.suncor.com/cedarpointwind These locations are subject to consultation with the right of way owner.
	Why is it so hard for landowners who signed leases to get out of the leases if the turbines have yet to be built?	We encourage any project landowner who has concerns with their agreement with Suncor to contact us directly.
	Hopefully Suncor will take another look at sites and choose to peacefully find a solution with the municipality of Plympton-Wyoming (taking the Municipality to court, put the mega	Provincial regulations set out the guidelines for setback in order to protect public health and safety. The 550 m setback is a minimum distance requirement set by the Ministry of the Environment. Suncor is committed to working in accordance with all governing laws and regulations in those jurisdictions where we do business.

Theme	Comment	Response
	turbines in so there are fewer and placing them away from houses and neighbours). Suncor needs to set an example and work with the municipality and the community.	Suncor's intention is to work collaboratively with all Municipalities in the development of any project.
Other	Why doesn't Suncor limit its operations to the Sarnia refinery and focus its efforts on making that location function efficiently and in an environmentally responsible way?	As an integrated energy company, Suncor is committed to developing and supplying energy options that meet the needs of both today and tomorrow. We believe that wind power – a clean, safe, and renewable energy source - is an important part of Canada's future energy mix.

Suncor Energy
P.O. Box 2844, 150 6th Ave SW
Calgary, AB
Canada, T2P 3E3
CedarPoint@suncor.com

Ian Parrott Acting Director
Agatha Garcia-Wright Director
ENVIRONMENTAL APPROVALS BRANCH
Ministry of the Environment
12A Flr, 2 St Clair Ave W
Toronto ON M4V 1L5
Ian.Parrott@ontario.ca
Agatha.GarciaWright@ontario.ca

cc WAIT-PW
Box 219
Plympton-Wyoming
N0N1T0
Ingrid.Willemsen@wait-pw.ca

Date: APR. 2/2013

To Whom It May Concern:

I _____ _____(insert printed name) am writing to **OBJECT** to the proposed Suncor Energy Cedar Point Wind Power Project in the Town of Plympton-Wyoming, the Municipality of Lambton Shores, and the Township of Warwick.

Initials


The process for approval of wind energy projects in Ontario is **UNDEMOCRATIC**. The Green Energy Act took away my rights as a resident/citizen/ratepayer of Ontario.


Wind Energy is expensive, inefficient, and requires a backup source. My electricity bill is high and it will get higher as a result of the Green Energy Act. I am concerned about the economic impact similar energy policies have had in other countries.


The granting of permits to allow wind industries to kill endangered species and to destroy their habitats is unjustifiable. There will be unfavourable environmental impacts from this project. The environmental benefits of wind energy projects have been overestimated.


I am concerned my property value will be negatively affected.


The development and operation of Suncor Energy's Cedar Point Wind Power Project will interfere with the enjoyment and use of my property.


The Ministry of Environment's approval process for this renewable energy project does not adequately protect me from harm. The approval process does not require Suncor energy to establish that there will be no adverse health effects resulting from the project (including the transmission lines leading to the grid). Suncor Energy itself has not provided any proof their Cedar Point Wind Power Project will not cause adverse health effects.


The Ministry of Environment does not require the wind industry to validate the accuracy of their noise models. The model described in Suncor Energy's Cedar Point Wind Power Project Draft Report of January, 2013, has been previously critiqued for accuracy and has been found deficient.

Additional Objections:

Signature: _____ Email: _____

Address: _____

cc. MPP Bob Bailey, MP Pat Davidson, MLWAG

Welcome

Kent Breeze Wind Power Project

We Are Here To:

- Introduce Suncor Energy Products Inc. to the community
- Present the proposed Project and provide a status update
- Provide an overview of the Renewable Energy Approval (REA) process
- Answer questions about the Project and outline next steps
- Receive the community's input and feedback for consideration by the Project Team in Project design and the REA process

Enercon Turbine at Ripley

Who Is Suncor?

- Suncor is one of the largest players in renewable energy in Canada (wind and biofuels)
- With increased demand for energy in this country, we support energy diversification and believe that renewable energy plays an important role in helping us to address air and water quality and provide solutions for greenhouse gas reductions
- We are committed to a “parallel path” for energy development, we build today's oil sands, conventional oil and natural gas resources while also bringing along new sources of energy for tomorrow
- We are dedicated to the safe and responsible development of renewable energy generation and have to date constructed 255 MW of wind power facilities across Canada – AB, SK, ON

Ripley Wind Power Project

The Business of Wind Power

- Suncor's current renewable energy projects (wind and biofuels) are expected to displace the equivalent of nearly 1 million tonnes of carbon dioxide yearly
- This is equal to the annual tailpipe emissions of approximately 200,000 cars
- Suncor's 6 producing wind farms are expected to generate enough electricity to power 100,000 homes

Project Name	Commissioning Date	Location	Capacity	Number of Turbines	Technology
SunBridge Wind Power Project	2002	Saskatchewan	11MW	17	660 kW Vestas turbines
Magrath Wind Power Project	2004	Alberta	30MW	20	1.5 MW General Electric turbines
Chin Chute Wind Power Project	2006	Alberta	30MW	20	1.5 MW General Electric turbines
Ripley Wind Power Project	2007	Ontario	76MW	38	2 MW Enercon turbines
Kent Breeze Wind Power Project	2011	Ontario	20MW	8	2.5 MW General Electric turbines
Wintering Hills Wind Power Project	2011	Alberta	88MW	55	1.6 MW General Electric turbines

Suncor Projects Under Development in Ontario

Project Name		Contract	Location	Capacity
Adelaide Wind Power Project		Feed-In-Tariff (FIT)	Middlesex County	Up to 40 MW
Camlachie Wind Power Project		No	Lambton County	Up to 20 MW
Cedar Point Wind Power Project	Phase I	No	Lambton County	Up to 50 MW
	Phase II	Feed-In-Tariff (FIT)	Lambton County	Up to 100 MW

Recently erected wind turbine at Kent Breeze Wind Power Project

- Suncor has been developing three projects in Ontario
- Adelaide and Cedar Point Phase II are currently the only projects that have received a contract to deliver electricity to the Province
- Suncor continues to develop the Camlachie and Cedar Point Phase I project however contracts have not been awarded for these projects at this time

The Project

- Suncor is proposing to develop the Suncor Energy Cedar Point Wind Power Project (the Project)
- The Project was awarded a Feed-In-Tariff (FIT) contract with the Ontario Power Authority (OPA) on July 4, 2011
- The FIT Contract was for up to 100 MW which could consist of up to 46 wind turbines
- The number of turbines will be dependent upon consultation activities, potential effects assessments, and detailed design/engineering work
- Additional components include; meteorological towers, access roads, electrical collector lines, substation, and a transmission line

Recently erected wind turbines at Ripley Wind Power Project

Project Updates

Since the last public meetings were held in August 2012, the following refinements have been made to the Project:

Reduction in the Number of Proposed Turbines

- The July 2012 Draft Site Plan included up to 62 turbines plus 10 alternative turbine locations. The current layout has been reduced to up to 46 turbines plus 9 alternative turbine locations. This reduction was made in an effort to optimize the Project site plan and reduce the number of proposed turbines in recognition of public comments and the selection of a turbine supplier (Siemens).

Reduction in the Project's Electrical Infrastructure

- The amount of cabling required for the Project has been reduced as a result of fewer proposed turbines. The proposed location of the electrical infrastructure has also been revised to minimize the amount of infrastructure within the municipal road right-of-way in an effort to minimize any potential effects to municipal infrastructure (either existing or proposed).

Completion of Visual Simulation Modelling

- Visual simulations of the proposed Project have been completed from several key vantage points throughout the Project area. These have been completed based on stakeholder requests.

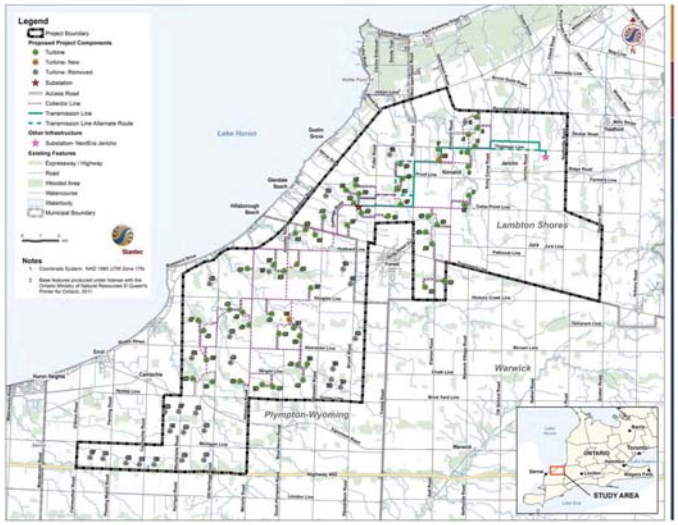
Responses to the August 2012 Comment Cards

- Suncor received several comment cards from the August 2012 public meetings and have compiled the comments and provided responses to each via a themed comment summary document. This document is available at this meeting, on the project website and will be submitted with the Consultation Report.

Release of Draft REA Reports

- The technical studies required as part of the REA process have been completed and were made available for public review starting on January 31, 2013. This includes the completion of a Natural Heritage Assessment / Environmental Impact Study and an Environmental Effects Monitoring Plan.

Draft Site Plan

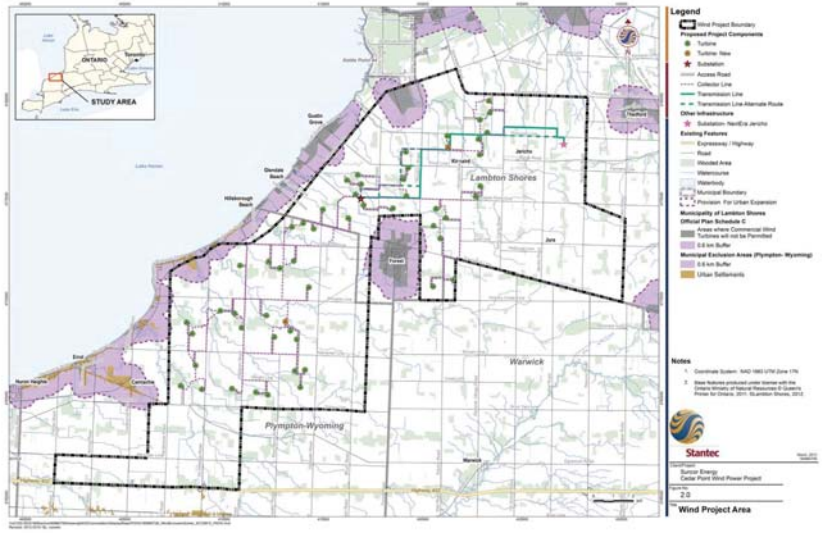


Why This Location?

- Good wind regime
- Compatible land uses – agricultural land
- Landowner interest
- Electrical interconnection – agreement with the Ontario Power Authority to feed power into the provincial grid
- Environment – based on studies to date, there will be a minimal impact on wildlife and natural features. These impacts will be monitored during operation.
- Local economic benefit – construction jobs, municipal tax revenue, supplemental income for farmers on participating lands
- Site access – good existing road infrastructure
- Accessible topography

First GE 2.5 MW turbine in North America - Kent Breeze Wind Power Project

Provision for Urban Expansion



Wind Turbine Details

The wind turbine selected is the Siemens SWT 2.3-113:

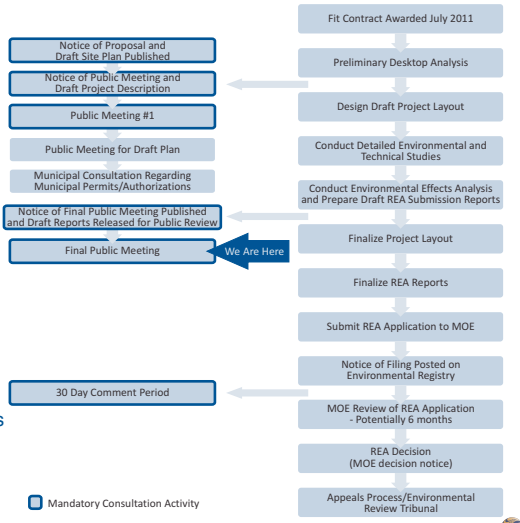
- Number of turbines: Maximum 46
- Maximum nameplate capacity: 100 MW
- Maximum hub height: 99.5 m
- Maximum blade length: 55 m
- Maximum tower height (both hub and blade length): 156 m
- Maximum rotor diameter: 113 m
- Rotor speed range: 6-13 rpm

This Project will create new jobs in Ontario. It is currently envisioned that the Project will generate new jobs for Ontario residents by:

- Using Siemens blades manufactured in Tillsonburg, Ontario (138 blades required);
- Steel plates used for towers will be formed in an Ontario foundry;
- Procurement of tower sections manufactured in Ontario (up to 46 towers);
- Procurement of heat exchangers manufactured in Ontario;
- Using substation step-up transformer wound in Ontario;
- Hiring construction labour who are residents of Ontario;
- Hiring consultants, accountants, and legal counsel who are residents of Ontario.

Renewable Energy Approval Process

- The *Green Energy and Green Economy Act (GEA)*, and related amendments to other provincial legislation, received Royal Assent in the Ontario Legislature on May 14, 2009
- The Project will require a Renewable Energy Approval (REA) according to Ontario Regulation 359/09 (REA under Part V0.1 of the Act) under the *Environmental Protection Act*
- This regulation became law on September 24, 2009, was amended on January 1, 2011, and replaces the previous *Ontario Environmental Assessment Act* process for wind projects
- Suncor is planning on submitting our REA application shortly



Municipal Control

Key Permit / Authorization	Rationale	Timing
Municipal Consultation Form	To be provided to each municipality in which the project is located. To bring forward issues related to municipal serving and infrastructure that the proponent must consider	30 days before the first Public Meeting
Municipal Review of Draft Renewable Energy Approval (REA) Reports	Provide additional time for the municipality to review the REA documents and provide comment	90 days before the final Public Meeting
Municipal Consent, Work within the municipal R.O.W	Required for works in municipal road allowances	Before construction
Road Cut Permit	May be required for access roads from county roads or works to county roads	Before construction
Pre-Condition Road Survey	Assessment of pre-construction road conditions for engineering staff	Before construction
Building Permit	Compliance with building codes	Before construction
Entrance Permit	Entrance from county roads	Before construction
Transportation Plan	Adherence to road safety and suitability	Before construction
Additional Plans related to general engineering (e.g. siltation control, lot grading, plan of services, storm water, transportation, etc.)	Required supporting information/plans	Before construction
Municipal Road Right of Way Requisition Agreement	Establish requirements to return roads to agreed upon state	Before construction

Renewable Energy Approval Process Setbacks

- A key component of the Renewable Energy Approval (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 for environmental features, additional analysis (i.e., Environmental Impact Study) will be provided in the REA application
- Key setbacks that will be applied throughout the design of the Project are as follows:

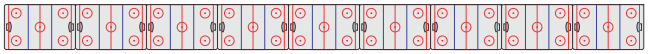
Feature	Setback Distance
Non-participating dwelling, school, etc.	40dBA and minimum 550 m (from centre of turbine base)
Public road right-of-way and railway right-of-way	Turbine blade length + 10 m (from centre of turbine base)
Property line	Turbine height (excluding blades) (from centre of turbine base)
Provincially significant wetland (PSW)	120 m (development prohibited within PSW)
Provincially significant Area of Natural and Scientific Interest (Earth Science)	50 m
Provincially significant Area of Natural and Scientific Interest (Life Science)	120 m
Significant valleyland	120 m
Significant woodland	120 m
Significant wildlife habitat	120 m
Lake or a permanent or intermittent stream	120 m from the average annual high water mark
Seepage area	120 m

Turbine Setback Distances

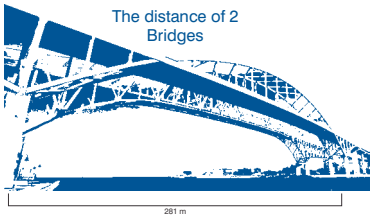
The average minimum distance to a non-participating receptor is 771m.

Minimum Distance from a Wind Turbine to a house 550m

550m

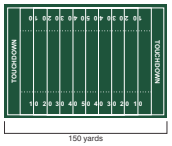


The distance of 2 Bridges



Bluewater Bridge 281m

The distance of more than 4 CFL Football Field's



Football Field 137m

The distance of more than 9 NHL Hockey Rink's

Hockey Rink 60m

*Scale is Approximate.

Reports Included in a Renewable Energy Approval Application

- **Project Description Report** – provides an overview of the Project
- **Construction Plan Report** – describes the activities associated with construction and identifies any potential effects resulting from construction of the project
- **Design and Operations Report** – describes the activities associated with operation of the project and identifies any potential effects resulting from operation of the project
- **Noise Study Report** – Ensures the project is in compliance with noise regulations
- **Natural Heritage Assessment & Environmental Impact Study** (includes technical studies for wildlife and wildlife habitat) – identifies potential effects on natural environment
- **Consultation Report** – Demonstrates how Suncor engaged with various stakeholders through the development of the project
- **Archaeological and Cultural Heritage Report** – identifies potential effects on archaeological or cultural heritage resources
- **Water Body and Water Assessment Report** – identifies potential effects on streams, rivers, seepage areas and lakes
- **Wind Turbine Specifications Report** – describes the turbine technology selected for the project
- **Decommissioning Plan Report** – describes the activities associated with decommissioning the project and identifies any potential effects resulting from decommissioning the project

All reports, with the exception of the Consultation Report, have been made available in draft form for public review and comment at least 60 days prior to the Final Public Meeting.

SUNCOR ENERGY

WIND POWER PROJECT

Natural Heritage Assessment - Construction

Environmental Feature	Potential Effect	Mitigation Strategy	Monitoring Plan and Contingency Measures
Significant Wetlands	• Indirect impacts such as dust generation, sedimentation, and erosion from construction activities including excavation, drilling, and use of dirt roads. • Change in surface water drainage to wetlands as a result of Project infrastructure (access roads) or site grading/compaction. • Loss of wetland habitat function.	• Project Location is located outside of wetland boundaries thus there will be no direct loss of wetland habitat. • Construction contractor to ensure no work occurs outside of the limits of construction envelope. • Minimize alteration to surface water drainage patterns and installation of culverts as required to maintain flows. • Stockpiling of materials will not occur within 30 m of wetland boundary. • If crossing of a wetland is required by a collector line, horizontal directional drill (HDD) under the wetland boundary. • Erosion control devices will be installed at the HDD location and drill cuttings will be collected and removed from the site for disposal in an approved and appropriate manner. • No clearing of trees in or near any wetlands that could result in wetland desiccation or drying. • Silt barriers (e.g., fencing) will be erected along the edge of wetland boundary.	• Inspectors will ensure construction vehicles and personnel stay within the construction envelope, thereby limiting the disturbance of wetlands. • Inspection of the erosion and sediment controls after each significant rainfall event or weekly, whichever is more frequent. • Inspection of culverts and surface drainage patterns to wetlands. Grading and/or other surface water flow mitigation measures to be implemented if proposed mitigation measures do not function properly. • If siltation to a wetland occurs, related construction activities should cease immediately until the situation is rectified.
Significant Woodlands	• Indirect impacts such as dust generation, sedimentation, and erosion from construction activities including excavation, drilling, and use of dirt roads. • Temporary disturbance to woodland habitat from construction related noise. • Minimal pruning of trees in order to transport turbine components into proposed turbine locations. • Removal of trees to accommodate the installation and use of the transmission line.	• Install components in previously cleared areas. • Where development is planned within a woodland boundary, clearing to take place along outer edges of the woodlot to prevent fragmentation • To the extent practical, pruning/tree removal would be avoided during leaf fall, typically between September to November and be completed prior to or after the breeding season for migratory birds (May 1 to July 31). • As appropriate and prior to construction, the limits of tree pruning/clearing would be marked in the field. The Construction Contractor would ensure that no construction disturbance occurs beyond the marked limits. • Cleared trees would be provided to the landowner for personal use and/or sale in an attempt to minimize waste. • If required, replanting of native species and restoration of damaged areas with native species. • Adherence to the principles of any tree cutting bylaws such as replacement requirements.	• Inspectors will ensure construction vehicles and personnel stay within the construction envelope, thereby limiting the disturbance of woodland vegetation. • Inspection of the erosion and sediment controls after each significant rainfall event or weekly, whichever is more frequent. • Should pruning /removal be required during the breeding bird season, prior to construction, surveys will be undertaken to identify the presence/absence of nesting birds. If a nest is located, a designated buffer would be marked off within which no construction activity would be allowed while the nest is active. The radius of the buffer width ranges from 5 -60 m depending on the species. • One year post pruning a certified arborist would undertake an evaluation of the health of the pruned trees. • Post-construction monitoring to ensure re-vegetated areas are functioning properly. Additional replanting/restoration in the event that previous works were unsuccessful.
Significant Wildlife Habitat (includes birds, bats, amphibians and other wildlife)	• Indirect impacts such as dust generation, sedimentation, and erosion from construction activities including excavation, drilling, and use of dirt roads. • Amphibian road mortality. • Disturbance /removal to vegetation within Significant Wildlife Habitat. • Temporary disturbance to Significant Wildlife Habitat from construction noise and activities. • Fragmentation of habitat. • Changes in surface water patterns adversely affecting Significant Wildlife Habitat.	• All new access roads are proposed previously cleared agricultural lands. • Minimize construction activities adjacent to significant wildlife habitat during sensitive periods (i.e. the breeding season). • Where development is planned within significant wildlife habitat, clearing to take place along outer edges of the feature to prevent/minimize fragmentation. • Minimal alteration to surface water drainage patterns is proposed and culverts will be installed as required to maintain existing flows. • Restriction of construction activities primarily to daytime hours when breeding amphibian movement is less likely. • Vehicle speeds should be restricted to 30 km/h or less on access roads. • Silt barriers (e.g., fencing) will be erected along the edge of features when construction is proposed adjacent to the feature.	• Undertake studies to determine the actual use of the habitat prior to any construction activities occurring within 120 m of the habitat (species dependent, see NHA/EIS). Results to be provided to the MNR. • Inspectors will ensure construction vehicles and personnel stay within the construction envelope, thereby limiting the disturbance of natural vegetation.
Vegetation (not considered as part of a significant natural feature)	• Removal and/or damage as a result of construction activities such as site clearing/grading and component installation.	• Avoid vegetated areas in the design of the Project. • As appropriate and prior to construction, the limits of the constructible areas including vegetated areas to be cleared would be marked in the field. The Construction Contractor would ensure that no construction disturbance occurs beyond the marked limits. • Inspectors will ensure construction vehicles and personnel stay within the construction envelope, thereby limiting the disturbance of natural vegetation. • Replanting of native species when removal is required and restoration of damaged areas with native species. • Adherence to the principles of any tree cutting-bylaws including replacement requirements.	• Post-construction monitoring to ensure re-vegetated areas are functioning properly. Additional replanting/restoration in the event that previous works were unsuccessful.

Stantec

SUNCOR ENERGY

WIND POWER PROJECT

Natural Heritage Assessment - Operation

Environmental Feature	Potential Effect	Mitigation Strategy	Monitoring Plan and Contingency Measures
Significant Wetlands	• The dust and disturbance to vegetation as a result of maintenance vehicle traffic is expected to be negligible due to the infrequency of these activities. • Potential disturbance effects to wildlife inhabiting wetlands are discussed under Significant Wildlife Habitat.	• N/A	• N/A
Significant Woodlands	• Tree pruning of previously cleared areas within the easement required for the transmission line in accordance with electrical safety standards. • The dust and disturbance to woodland vegetation as a result of maintenance vehicle traffic is expected to be negligible due to the infrequency of these activities. • Potential disturbance effects to wildlife inhabiting woodlands are discussed under Significant Wildlife Habitat.	• To the extent practical, pruning would be avoided during leaf fall, typically between September to November and be completed prior to or after the breeding season for migratory birds (May 1 to July 31). • Pruned trees would be provided to the landowner for personal use and/or sale in an attempt to minimize waste. • If required, replanting of native species and restoration of damaged areas with native species. • Adherence to the principles of any tree-cutting bylaws such as replacement requirements.	• Should pruning be required during the breeding bird season, surveys will be undertaken to identify the presence/absence of nesting birds. If a nest is located, a designated buffer would be marked off within which no pruning activity would be allowed while the nest is active. The radius of the buffer width ranges from 5 -60 m depending on the species.
Significant Wildlife Habitat (includes birds, bats, amphibians and other wildlife)	• Disturbance in the form of dust, noise, and tree pruning from maintenance activities. • Avian and bat mortality from collisions with turbine blades. • Mortality from collisions with maintenance vehicles on access roads. • Changes in surface water patterns adversely affecting Significant Wildlife Habitat	• To the extent practical, pruning would be restricted to previously cleared areas and would be avoided during leaf fall, typically between September to November and be completed prior to or after the breeding season for migratory birds (May 1 to July 31). • Minimal alteration to surface water drainage patterns and installation of culverts (during construction) as required to maintain flows. • Maintenance vehicle speeds should be restricted to 30 km/h or less on wind turbine access roads. • Disturbance of wildlife due to increased activity would be temporary during maintenance activities.	• Monitoring of disturbance effects. • Bird and bat mortality monitoring will be conducted according to MNR's Bat Guidelines (2011) and MNR's Bird Guidelines (2010) – see Appendix C – Environmental Effects Monitoring Plan for monitoring commitments. • Implementation of operational controls when the mortality thresholds are exceeded (see Appendix C – Environmental Effects Monitoring Plan for mortality thresholds): • Operational controls may include: • Birds: • Development of a response plan including an analysis of the species, timing and distribution of fatalities to determine potential risk factors leading to mortality. • Periodic shut-down of select turbines at specific times of year. • Blade feathering at specific times of year. • Bats: • Increasing cut-in speed to 5.5 m/s or feathering wind turbine blades when wind speeds are below 5.5 m/s between sunset and sunrise, from July 15 to September 30. • Should the cut-in speed mitigation be implemented and the bat mortality thresholds continue to be exceeded, Suncor will work with the MNR to determine additional mitigation and scoped monitoring requirements.

Stantec

SUNCOR ENERGY

WIND POWER PROJECT

Archaeological Assessment

- A Stage 1 Archaeological Assessment (a desktop archaeological study) was completed to determine the archaeological potential for both Pre-Contact Aboriginal and Euro-Canadian cultural remains within the Project Location
    - The results of the Stage 1 indicated that further archaeological studies would be required
- A Stage 2 Archaeological Assessment began in the Spring of 2011. The Stage 2 field assessment provided an inventory of archaeological sites on the proposed Project lands
- Findings from the archaeological assessments will be considered in the Project design to minimize impacts as much as possible
- The Archeological Assessment Reports have been submitted to the Ministry of Tourism, Culture, and Sport for acceptance into the Ontario Public Register of Archeological Reports
- A Stage 3 Archaeological Assessment is planned to commence in Spring 2013. This will be completed prior to Project construction.

Within the Suncor Adelaide Wind Power Project Boundary

Stantec

SUNCOR ENERGY

WIND POWER PROJECT

Project Schedule Overview

Activity	Dates
REA Technical Studies and Consultation	2011 through 2013
Notice of Proposal	March 2012
Public Meeting #1	April 2012
Public Meeting - Draft Site Plan	August 2012
Consultation with Municipality - Permits/Authorizations	Ongoing
Draft REA Reports to Public	January 2013
Final Public Meeting	April 2013
REA Submission	April 2013
Start of Construction	End of 2013
Commercial Operation Date	December 2014
Repowering/Decommissioning	Approximately 20 years after COD

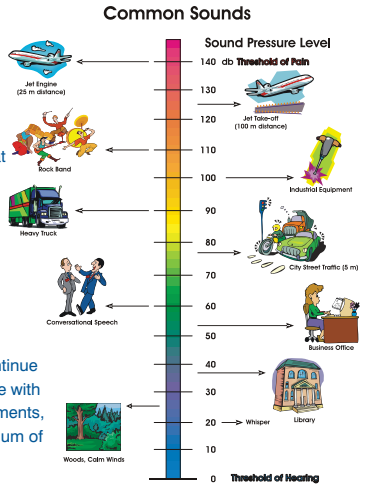
Acronyms:
REA – Renewable Energy Approval
COD – Commercial Operation Date

Preparation of rotor installation - Wintering Hills Wind Power Project

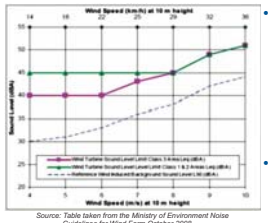
Stantec

Typical Sound Levels and Wind Farms

- There are two potential sources of sound typically associated with wind turbines:
  - **Aerodynamic** - blades pass through the air and create a "swishing" sound
  - **Mechanical** – originated from the gearbox and generator that are housed in the nacelle
- A project this size requires a Noise Assessment Report be completed to ensure the project complies with Ministry of Environment requirements
- The Noise Assessment will consider other operational or proposed wind facilities within a 5 km radius of an identified project point of reception



Source: Suncor

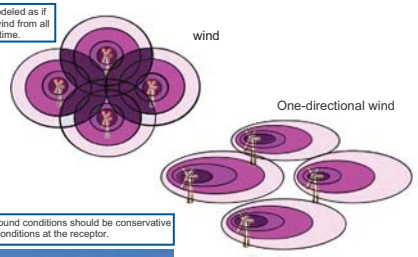


Source: Table taken from the Ministry of Environment Noise Guidelines for Wind Farm October 2008.

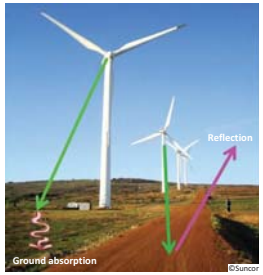
- Turbines have been and will continue to be sited to ensure compliance with Ministry of Environment requirements, including being located a minimum of 550 m from non-participating receptors (residents)
- The Project is located in a Class 3 area, which is defined as "a rural area with an acoustical environment that is dominated by natural sounds having little or no road traffic" as per the MOE Noise Guideline

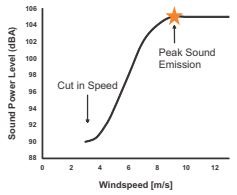
Sound Propagation, Modeling and Assessment

1. Houses are modeled as if they are downwind from all turbines all the time.



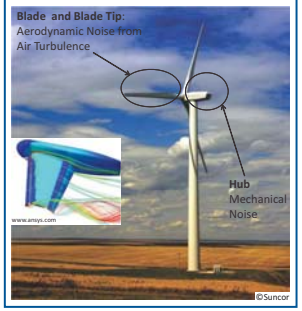
2. Selection of ground conditions should be conservative and based on conditions at the receptor.





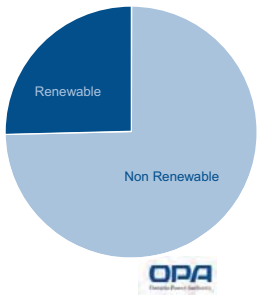
Sound Generation

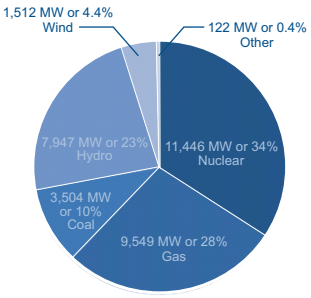
How Sound is Emitted...

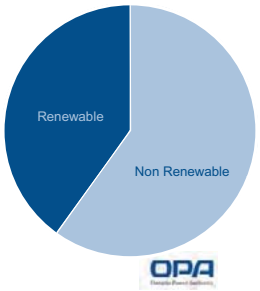


Ontario Power Supply Mix

Ontario Installed Supply Capacity*	Ontario Supply Mix**	Projected Ontario Installed Supply Capacity*
2009	**2012**	**2014**







* From OPA 15899_Ontarios_Renewable_Energy_Feed-In_Tariff_Program.pdf
** based on IESO January 31, 2012 Supply Mix

Community Benefits

- Job creation
- New local investment
- Secondary source of income for farmers and landowners
- Additional tax payments to local municipalities (for a 100 MW project approximately $175,000/yr)
- Small project footprint
- Provide a new supply of safe, clean and reliable electricity
- Helps meet Ontario's commitment to renewable energy and phasing out of coal-fired power plants to reduce healthcare costs

Within the Suncor Cedar Point Wind Power Project Boundary

WIND POWER PROJECT

Environmental Benefits

- It's operation is pollution free
- It doesn't contribute to smog or acid rain
- It utilizes a completely renewable resource which is free
- Generating electricity from wind leaves behind no hazardous or toxic wastes and does not contribute to climate change
- Zero emissions – helps meet forecasted energy supply requirements while reducing greenhouse gas levels

Environmental Impact of Electricity Sources

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

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

WIND POWER PROJECT

Health and Wind Power

Public health and safety will be considered during all stages of the Project

- Many studies have been conducted world-wide to examine the relationship between wind turbines and possible human health effects
- In Ontario "Ontario doctors, nurses, and other health professionals support energy conservation combined with wind and solar power – to help us move away from coal"

Ontario College of Family Physicians, Registered Nurses Association of Ontario, Canadian Association of Physicians for the Environment, Physicians for Global Survival, the Asthma Society of Canada, and the Lung Association

- In "The Potential Health Impact of Wind Turbines" (May 2010), Ontario's Chief Medical Officer of Health recently examined the scientific literature related to wind turbines and public health, considering potential effects, such as dizziness, headaches, and sleep disturbance. The report concluded that:
  - *"…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 report also concluded that 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, the report states that there is no scientific evidence to date that vibration from low frequency wind turbine noise causes adverse health effects
- Overall, health and medical agencies agree that sound from wind turbines is not loud enough to cause hearing impairment and is not causally related to adverse effects*
- Scientists and medical experts around the world continue to publish research in this area. Through our health consultants, Suncor Energy is committed to keeping informed on this issue

*e.g., Chatham-Kent Public Health Unit, 2008; Minnesota Department of Health, 2009; Australian Government, National Health and Medical Research Council, 2010; Australian Government, 2011, Massachusetts Department of Environmental Protection (MassDEP) and Massachusetts Department of Public Health (MDPH), 2012

WIND POWER PROJECT

Construction at Suncor's Wintering Hills Wind Power Project




WIND POWER PROJECT

Construction at Suncor's Wintering Hills Wind Power Project



WIND POWER PROJECT

Construction at Suncor's Wintering Hills Wind Power Project



WIND POWER PROJECT

Construction at Suncor's Wintering Hills Wind Power Project

WIND POWER PROJECT

Suncor's Ripley Wind Power Project

WIND POWER PROJECT

Questions and Answers from Public Meetings

During our first Public Meetings we received many comments relating to the Project. Each of these comments were taken into consideration while developing the Draft Site Plan. A response document to public comments is available on the project website (www.suncor.com/cedarpointwind) and is also available at the front desk.

In order for comments to be documented as part of the REA consultation record, all comments must be received no later than April 5, 2013.

Within the Suncor Cedar Point Wind Power Project Boundary

WIND POWER PROJECT

How to have your Questions Answered:

- Ask the Project Team
- Fill out a Comment Card and hand it in or mail it back a postage paid postcard
- Take time to read the information panels around the room
- Review the Studies and Reports available on the tables and on the Project Website
- Visit the Project Website: www.suncor.com/cedarpointwind
- Send us an email: cedarpoint@suncor.com
- Give us a call: 1-866-344-0178
- Mail us a letter: Suncor Energy
  P.O. Box 2844,150 6th Ave SW
  Calgary, AB
  Canada, T2P 3E3

Within the Suncor Cedar Point Wind Power Project Boundary

WIND POWER PROJECT

Within the Suncor Adelaide Wind Power Project Boundary

Thank You

Thank you for attending our Project Open House

We appreciate you taking the time to come and learn about our Project

If you would like to be added to the Project mailing list please sign in at the front