

4.0 RESPONSE TO PUBLIC CONCERNS

The Minister’s ruling states “Shear Wind Inc. must provide the details of all issues and concerns raised by local residents and how the company proposes to address them.” The public responses were in letter form and submitted during the public review period of the EA Registration process. Following the Minister’s evaluation of the EA registration, SWI conducted a thorough review of the public comments from the letters provided in response to the EA Registration. Table 4.1 summarizes the issues, all of which are collated into themes. A detailed table of the responses and theme or issue category to which the issue was assigned is provided in Appendix B. The respondents are identified by number only and some of the comments are paraphrased to fit into table format. No priority or weighting has been assigned to the issues listed. The individual public responses are on record at NSE.

Table 4.1: Summary of Issues Raised in Public Comments

Issue No.	Description	Occurrence	Percentage
1	Noise	16	9.4%
2	Visual	2	1%
3	Human health	23	13.6%
4	Wildlife health and habitat	7	4.1%
5	Public consultations	16	9.4%
6	EA not reliable/ incomplete document	17	10%
7	Project layout and timing	10	5.9%
8	Distance to homes/ bylaw issues	9	5.3%
9	Misc. impacts on community, SWI destroying community, etc	30	17.8%
10	Safety, Decommissioning, Fires, Roads, Fueling, Restricted access	14	8.3%
11	Hydrogeology and ground water	3	1.7%
12	Herbicides	2	1%
13	Property values	4	2.3%
14	Negative economic impact	8	4.7%
15	Overall environmental impact (GHGs, general)	7	4.1%

Each of these issues have been identified and addressed under a separate heading in this section of the Addendum.

Some public comments contained allegations and arguments which have been considered misrepresentations of the findings and facts associated the scientific information in the document and the sequence of events which occurred during the development of the Project. The fact that a specific response to each of these types of comments has been omitted does not indicate acceptance of the comments or agreement with the opinions stated.

The following section lists the issues raised in the public comments and provides responses to each issue.

Issue 1: Noise

- Sixteen public comments regarding noise issues were submitted in response to the EA Document.

Response:

SWI has voluntarily deleted the two turbines which were closest to homes from the layout, and adjusted the locations of other turbines. This provides a setback distance along the western boundary of the Project of approximately 1.44 km and along the eastern boundary maintained a minimum distance of approximately 1.12 km from the nearest residence which belongs to a Project Participant. These distances exceed the by-law requirements of both Pictou and Antigonish counties.

The issues of noise and proximity are addressed in Section 2 of this Addendum.

Issue 2: Visual Impacts

- Two public comments on visual impacts were submitted in response to the EA document.

Response:

Impacts of wind turbines on the landscape are a source of debate amongst the public because of the subjective nature of visual issues and personal interests. The proposed wind turbines are large and can be seen at great distances on clear days. Some people consider the view of turbine objectionable while others find them of interest and demonstrate a positive move towards environmental sustainability. It is unlikely that such debate will ever achieve consensus (Sustainable Development Commission, 2005).

From a wind project perspective; changes to the landscape can be considered a local and immediate impact. The global view considers that all energy users contribute to changes in the landscape at every energy source or generating facility. For example, view plane issues related to electrical generation using coal need to consider visual impacts related to coal mining and storage, generation facilities and stack emissions as well as long term visual impacts related to global warming and acid rain. Following a sustainable development approach, the view plane in either case should be considered on an equitable basis without favouring one community over another.

Visual impacts are often linked to issues of property value. A discussion of the impacts of wind farms on property values is presented in Section 4.13 below. Potential visual impacts related to human health are addressed in Section 3.

SWI has deleted turbines 33 and 34 and relocated turbines 30 and 27 on the western side of the site and have moved back the majority of the turbines along the northern face of the project to respond to the local residents' concerns about noise, possible health effects and visual impacts. Shear Wind Inc. then re-aligned the layout of some other turbines to address the issues related to proximity and noise for the rest of the wind farm while maintaining a productive resource capacity. This re-alignment is identified in Section 2.1 of the addendum and the revised view analysis is provided in Figure 2.4.

Reference Cited:

Sustainable Development Commission, *Wind Power in the UK, A guide to the key issues surrounding onshore wind power development in the UK*, May 2005, p.63.

Issue 3: Human Health

- Twenty-three public comments regarding Human Health issues were submitted in response to the EA Document.

Response:

Section 3 provides a literature review of the human health issues raised by the public and provides an exposure assessment and human health risk characterization for the Glen Dhu Project design.

Issue 4: Wildlife Health and Habitat

- Seven comments were received from the public on the issue of wildlife health and habitat.

Response:

Wildlife issues were identified by the project Biologist and submitted for review in the draft stage of the EA preparation by regulators including: the Department of Natural Resources; Nova Scotia Environment; Nova Scotia Tourism, Culture and Heritage; Environment Canada; and the Canadian Wildlife Service. Valued Ecological Components (VECs) were selected within the wildlife ecosystems for further evaluation. The selected wildlife VECs represent those species which are “considered significant issues on a local, regional, provincial or national perspective“.

This process is a standard method used in environmental assessments to address those species which are most likely to be at risk from project activities. It is not necessary to evaluate those species which do not fall into a “significant risk” category as the population will not have measurable impacts associated with the Project. Under the EA process, it is unnecessary to conduct a detailed evaluation of common wildlife species such as deer, bear, beaver, coyote, raccoon and many others which are not considered at risk by wildlife officials and scientists. The submission of the Draft EA/Registration document for review by the Regulators provides a check on the selected VECs and the evaluation process prior to the formal submission of the Environmental Assessment Document.

Moose

Further discussion of issues regarding Mainland Moose were identified by the Minister in his ruling on the Glen Dhu Project and these issues are addressed in Section 5 of the Addendum to the EA Registration.

Black Bear

Comments have been expressed regarding potential impacts on the human population of black bear in the area and the potential for dislocating bears into the inhabited areas of the community. It has been noted that there are increased sightings of black bear at residences in the local region. In recent years, the population of black bears in this area has grown and as a result the density of this population will mean that the forage area

for the species will increase. Human activities in the woods (i.e. forest operations) will tend to disturb or displace some animals. Increased sightings at residences are likely the result of the combination of more animals and human activities in the woods.

Although the actual turbine locations and access roads are small in comparison to timber operations, the construction phase of the Glen Dhu Project may have similar temporary disturbance effects on black bears. The construction activity continuously moves with the progress of the development, hence, there will always be plenty of unoccupied locations still within the mountain and wilderness areas where these mammals may take temporary refuge. It is unlikely that the Project will have any permanent impact on the distribution of black bears in the area as it is likely that during the operation phase of the Project, bears will become accustomed to the turbines and re-habituate to the turbine sites.

Birds

Comments were received regarding the Project impacts on bird and bat population. Particular reference was made to impacts on Bald Eagles which would lead to their extinction. SWI has adopted the recommendations of the avian study and has established voluntary setbacks from the scarp face as a protection measure for soaring birds. These setbacks were established to mitigate potential risks to soaring birds that use the thermal effects of the topography to gain altitude. With changes to the turbine layout, these setback distances along much of the scarp face have been increased providing a greater margin of safety for soaring birds. The population of Bald Eagles in this area is thriving. There is no evidence to suggest that the Project will have an impact on the Bald Eagle population.

Issue 5: Public Consultations

- Sixteen public comments regarding public consultation issues were submitted in response to the EA Document.

Response:

SWI has addressed the issues and concerns of the local public through a number of initiatives which are described in the flowing section.

Open House Meetings

SWI conducted open house meetings on September 10 and 11, 2008 at the Merigomish Fire Hall and on September 17 and 18, 2008 at the Lismore Community Center. Comments from the public were solicited at these public information sessions. Comments sheets were reviewed and the following is a summary of the attendance and comments received over the four public sessions is provided.

The Visitor's Log has 65 signatures. More people attended the session but did not sign the Log. Thirty-six (36) individuals left Comment Cards, two (2) of which were not signed. Table 4.2 summarizes the comments in term of favourability or criticism of the Project or elements of the EA Registration Document:

Table 4.2: Summary of Comments (Open House Meetings)

Comment	Number of Respondents	Percentage of Total
No Comment	5	14 %
Favourable Comment	23	64 %
Unfavourable Comment	7	19 %
Criticism of EA Document	1	3 %

Table 4.3 summarizes the responses to the question; “Do you approve of the use of wind energy as a source of sustainable power for Nova Scotia?”

Table 4.3: Summary of Responses to the Question regarding the use of Wind Power (Open House Meetings)

Response	Number of Respondents	Percentage of Total
Response not indicated	3	8 %
Yes (Unconditional)	28	78 %
No (Unconditional)	2	6%
Conditional Response	3	8 %

Conditional responses refer to those in which the respondent indicated their specific concerns or reservations which would determine whether the use of wind power was acceptable or not. It is noted that a number of the respondents who provided unfavourable comments have also provided written comments to NSE through the EA public comment process.

This information indicates the majority of the respondents from the community support the Project although there is opposition. The responses also indicate a favourable view of wind power in general. It is reasonable to expect controversy resulting from a new significant project in a community. SWI has acknowledged its responsibility for further efforts to engage the community in the Project and has undertaken modification to the Project layout to address the issues of proximity of turbines to residences.

Public Meetings

SWI held a public meeting on November 1, 2008 to provide up-to-date information to the local community on current developments for the Glen Dhu Project. Seventy-three residents attended the meeting. At this meeting, SWI indicated that the turbines closest to the residences near Bailey’s Brook will be relocated to other sites in the Project area. Two turbines (34 and 33) have been deleted and two turbines (30 and 27) have been setback significantly to increase the distance between the residences and the turbines to approximately 1.44 km. This required reconsideration of the locations of other turbines and additional adjustments to some locations. It should be noted that the process by which turbine locations are determined requires complex modeling to optimize the available wind resources while maintaining the required distances between the turbines and the setback rules which SWI adopted for this Project. By removing or relocating the turbines which are closest to residences, SWI has taken a significant step to mitigate the public issue of noise and proximity which appears to be the most significant element of opposition.

Following the meeting, a questionnaire (exit survey) was provided to obtain public comments on the Glen Dhu Project and the results of this meeting. Twenty-seven people responded to the questionnaire. Table 4.4 provides the results of the exit survey.

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Table 4.4: Results of Exit Survey following Public Meeting of November 1, 2008

Response #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	
Do you have any questions about the Glen Dhu wind farm that you feel were not addressed during this meeting?	no	N/A ¹	none	no	no	N/A	N/A	none	no	no	?Maybe but not yet	N/A	Yes, how is my land affected if no windmill is placed on it?	No	no	good	N/A	N/A	N/A	no	no	N/A	N/A	N/A	N/A	no	no	
Are you in favour of the Glen Dhu Wind farm?	yes	Yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	N/A	yes	yes	N/A	yes	yes
Do you support the use of wind as an alternative to traditional energy sources? ²	10	10	10	10	10	10	10	10	10	10	10	9	10	10	10	10	10	10	10	10	10	10	10	10	10	N/A	10	10
Do you feel that today's meeting has addressed your concerns? ³	10	9	10	10	10	10	10	10	10	10	7	10	9	10	10	10	10	10	10	9	10	10	8	10	N/A	10	10	
Do you feel that the revised wind farm map reflects community concerns? ⁴	no	10	10	10	10	10	It was fine before	10	10	10	8	10	9	10	10	10	10	10	10	7	10	10	9	10	N/A	10	10	
Any further comments?	Put up the tower up now	The negative comments of a few do not reflect the views of the majority of the community	Great job	Meeting went very well!	Meeting went very well	Meeting went very well	N/A	This is progress that shouldn't be detained by selfish concerns like "don't bring the tourists" or "I don't like the view" or by those without the real facts.	Get at it and start production	Go!	You must keep the lines of communication open	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	no	no	N/A	N/A	N/A	N/A	N/A	N/A	

- Notes: 1. N/A = no answer,
 2. 1- strongly disagree, 10-strongly agree
 3. 1- strongly disagree, 10-strongly agree
 4. 1- strongly disagree, 10-strongly agree

The next public meeting is planned for December 6, 2008 at the Lismore Community Center to update the community on the submission of this addendum. The focus of this meeting will be: to discuss the regulatory process; to disclose the final micro-sited layout with regard to setback distances and relative noise, visual and potential health issues; and to answer any questions or concerns members of the community may have at this point.

Community Liaison Committee

At the November 1, 2008 public meeting, SWI also announced plans to develop a Community Liaison Committee (CLC) to provide communications between the Project and the community. Co-chairs for this committee have accepted the position and they will approach other members of the community to participate in the CLC. The CLC will facilitate public information sessions and communications with the local residents. The CLC will assist in communications with community groups (i.e. ATV and snowmobile associations) and municipal officials to exchange information on specific issues and concerns. DNR has been approached to provide information sessions on the Mainland Moose and other environmental sensitivities of the area.

Newsletter and Website

SWI distributed its first newsletter in November 2008 and will continue this practice through out the construction and operational phases of the Project. SWI is also in the process of constructing a web site to provide information to the community. Project plans, activities, public meetings, open houses, and other information will be provided in the newsletters and posted on the website. Updates and new information will be issued from time to time as the Project evolves to inform the public on Project activities and schedules.

Community Involvement

On November 6, 2008, SWI President and CEO, Mr. Mike Magnus, and the leaders of two other corporations were invited to a joint meeting of the Pictou Regional Development Authority (PRDA) and Energy Conversation and Sustainability in Pictou County. The meeting was held to explore opportunities for further economic development related to renewable energy in Pictou County. SWI provided information on the Glen Dhu Wind Project and took part in discussions on related economic opportunities for the local business sector.

Summary

SWI has committed resources and personnel to listen to the community and to provide clear and factual information to the public. It is unlikely that this will serve to remove all controversy regarding the Project, particularly as some residents oppose the use of Wind Power as a source of energy.

Issue 6: EA Registration Document

- Sixteen public comments regarding quality of the information and EA Document were submitted in response to the EA registration.

Response:

The Minister's ruling identified requirements for additional information for further evaluation of the EA Registration. The Addendum to the Glen Dhu Wind Project EA Registration provides the additional information required by the Minister. This document

was prepared following the Proponent's Guide to Wind Power Projects, (NSE, 2007). This information is intended to address both the issues raised in the Minister's ruling and many of the public comments received.

Issue 7: Project Layout and Timing

- Ten public comments were received regarding changes in the layout and timing of the Project from the initial announcements to the layout presented in the EA registration.

Response:

Flexibility in siting the turbine layout is required during the design phase of the Project. There are many factors to be considered and the design team conducts the selection process numerous times until a final design is determined. During this process, SWI cannot provide interim or a partially complete selection for public review. The development of the wind farm layout requires negotiations with individual landowners and such negotiations are considered private and confidential. Interim design layouts are not provided to public to protect the confidential matters related to lease negotiations.

SWI has acknowledged the need for on-going public information and undertaken a number of measures to provide an enhanced public consultation process as described in Section 4.5 above.

Issue 8: Setback from Homes/Municipal By-law

- Nine public comments were received regarding setback distances from local residences with a number of comments contesting the Municipal by-law setback of 600 meters and the proposed Antigonish County by-law setback of 1,000 m.

Response:

The setback distances as required under the Municipal By-law is a matter of public policy and regulation and is outside the scope of Glen Dhu Project.

The locations of turbines determine the availability of useable wind resources and Project economics and therefore there are limitations to selection viable alternative sites. SWI has revised the turbine layout to voluntarily increase the setback distance to residences to approximately 1.44 km (see Section 4.1 above) which significantly exceeds the setback for both counties. SWI has responded to the concerns of the community with these revisions to the Project layout.

Issue 9: Negative Impacts on Community

- Thirty public comments were received regarding negative impacts and divisiveness of the Project on the community and personal relationships.

Response:

It is important to note that there are economic benefits to the community from the Project. The following is a summary of the economic benefits of the Project:

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- Total project valued at approximately \$160 M. This includes \$119 M in turbine supply and \$41M in balance of plant construction from NS suppliers. The turbine supply also includes local suppliers for cranes, trucking and installation crew personnel;
- Construction employment of approximately 75 to 100 locally sourced workers;
- Turbine maintenance shop and suppliers in the local area with estimated full time employment of 10 to 15 people;
- Present land use is mostly woodlot. Much of it has been cut in recent years which means for these lands, no additional income will come from timber harvesting for at least 20 years;
- \$330k/annum in property tax to the counties (\$6.6 M over the 20 year PPA).
- Approximately \$500k in capital tax to the province.
- A minimum of \$240k/annum in royalties paid to local landowners or \$4.8 M over the 20 year PPA.
- Summary: \$16.3 M in taxation and revenues plus \$41 M Balance of Plant or \$57.3 M.

The following table shows a summary of SWI's projected expenditures for present project (Phase 1) and the Phase 2 project planned for the future.

Projected Expenditures For Phase 1 and Phase 2 of the Glen Dhu Wind Project

\$ Million	Glen Dhu Phase 1	Glen Dhu Phase 2	Glen Dhu Total
Balance of Plant	\$ 41.0	\$123.0	\$164.0
Property Tax	\$ 6.6	\$ 21.6	\$ 28.2
Capital Tax	\$ 0.5	-	\$ 0.5
Royalties to Land Owners	\$ 4.8	\$ 24.0	\$ 28.8
Total	\$ 52.9	\$168.6	\$221.5

Communities depend on local tax revenues to pay for municipal services and infrastructure which are not available from provincial or federal taxation sources. In order to maintain their level of services, it is important that Municipalities offset declining populations and industry closures in the region with a new sustainable tax base.

Issue 10: Public Safety, Decommissioning, Accessibility

- Fourteen public comments were received regarding issues related to the safety with respect to fire, roads, equipment fuelling, restricted access etc.

Response:

Safety of the public on provincial roads and highways is considered an issue which must be addressed during the construction phase of the Project.

The use of local roads for the transportation of the wind farm components is necessary in order to get the parts to their locations. Provincial standards, the traffic management standards of the Nova Scotia Construction Safety Association and the Department of Transportation (DOT) will be followed during construction.

It is unlikely that the Project activities will force dangerous wildlife (black bear) onto the properties of nearby residents. Further discussion of issues related to black bears is provided in Section 4.4.

Refuelling stations are not part of the Project activities. Due to the distance covered and relatively slow speed of earth moving equipment, refuelling of construction vehicles will be done onsite by a CSA certified delivery agent and will not be done within 30 m of any watercourse. Spill containment equipment and supplies will be carried on all delivery vehicles and any spills will be reported immediately.

Decommissioning is part of the Project activity and is therefore included in the Project EA registration and approval process. With the approval of the Project, the statements made in the EA/Registration document are a commitment by SWI (accountability) which can be and would be enforced by NSE. This enforcement includes legal action by the Minister to force the proponent to comply with the decommissioning program upon closure of the Project or the province could conduct the decommissioning and make the proponent pay (last resort).

Issue 11: Groundwater and Water Supply

- Three public comments were received regarding issues related to potential impacts on the groundwater supply and local hydrogeology particularly with regard to drinking water wells.

Response:

There will be thirty foundations excavated into the surface soil layer and surficial bedrock to support the wind turbines. Each foundation will be in the order of 16.7 m (~ 55 feet) in diameter and 2.6 m (~8.5 feet) deep. At its widest point, each foundation will cover approximately 219 m² (~2358 sq ft). At ground level, the exposed foundation will be 6.6 m (21.6 feet) in diameter. The foundations will be back-filled with structural fill and native soils restored on the surface. The disturbed area will be allowed to re-vegetate through natural succession.

These foundations will be distributed over an area of approximately 640 hectares. Therefore the distribution will be approximately one turbine per 21.3 hectares (213,000 m²). The foundations will cover approximately 0.1% of the Project surface area. The minimum setback from local residences and water wells is 1.44 km.

During the operation of the wind farm, a potable water well and septic system will be installed at the maintenance base which is located approximately 1.4 km from the nearest residential well. This installation will comply with provincial regulations and guidelines. This will be the only water withdrawal from the Project area.

The near surface geology has been assessed by Jacques Whitford Limited and their report is provided in Appendix C Section 8 of the Registration Document. In summary, the surface of the area is characterized by shallow glacial tills, ground moraines of hummocky deposits of gravel and sand or silty glacial till deposits and out crops of weathered bedrock (residuum) or surface bedrock. For the installation of foundations, the types of bedrock present are unlikely to require blasting. Weathered bedrock may be removed by ripping with an excavator and the more competent bedrock broken up by hydraulic hammer. These methods reduce potential fractures which can influence groundwater flow within the bedrock structure.

The foundations will be relatively shallow (2.6 m) and final design will be based on site specific soil and geological conditions at each turbine location. It may be necessary to drill anchors into the bedrock of the site.

The quantity of water infiltrating into the groundwater system over a one year period is calculated from a water balance for the area and the soil/land use across the area. The calculation is based on the following water balance equation (Hillel, 1971):

$$R = (P - ET) * IF$$

Where:

R = Recharge (m/yr)

P = Average annual precipitation (m/yr)

ET = Average annual evapo-transpiration (m/yr)

IF = Infiltration Factor (1 – Runoff coefficient)

The following are site specific parameters used in the recharge calculation:

P = 1.408 m/yr (Agriculture Canada, 1961-1990, Ecodistrict 527)

ET = 0.545 m/yr (Environment Canada)

Runoff Coefficient = 0.15 (CCME, 1996b)

IF = 0.85 (CCME, 1996b)

Therefore, the annual value of recharge water over the area of the property,

$$\begin{aligned} R &= (1.409 - 0.545) * 0.85 \\ &= 0.73 \text{ m/yr} \end{aligned}$$

Given the Project area of 640 hectares (6,400,000 m²), annual recharge of the groundwater aquifer due to precipitation would be in the order of 4.7 million cubic meters assuming no other surrounding sources were present.

The Project site is at a much higher elevation than the adjacent residences. Many of the local wells are shallow surface water wells. These wells are typically recharged from shallow or perched groundwater immediately around the well. It is highly unlikely that the construction of the foundations will influence the local groundwater aquifer or impact supply of water to drinking water wells for the following reasons:

- The turbine foundations occupy only a minor fraction of the surface area of the Project. It is highly unlikely; therefore, that impacts on groundwater due to the alteration of runoff or infiltration from surface water recharge could occur.

- Residential wells are typically shallow (dug) wells and are located long way from the Project area (more than 1.44 km). Therefore, water wells are outside the zone of influence which might be attributed to the Project area.
- There will be no significant withdrawal of surface water or groundwater from the site. Foundation and roads will not measurably alter surface runoff.
- Although erosion and sediment control measures will be required as part of the construction phase, these activities are limited to specific locations and will not significantly alter the net water balance or surface water to groundwater pathway or the recharge of wells.

References Cited:

Agriculture and Agri-food Canada, 1997, Canadian Ecodistrict Climate Normals 1961-1990, <http://sis.agr.ca/cansis/nsdb/ecostrat/district/climate.html>

CCME 1996b. A Protocol for the Derivation of Environmental and Human Health Soil Quality Guidelines. Canadian Council of Ministers of the Environment. CCME, Subcommittee on Environmental Quality Criteria for Contaminated Sites.

Environment Canada, Canadian Climate Normals, 1971-2000, http://www.climate.weatheroffice.ec.gc.ca/climate_normals/index_e.html

Hillel, D. 1971. Soil and Water: Physical Principles and Processes, Academic Press, N.Y.

Issue 12: Herbicides

- Two public comments were received regarding issues related to use of herbicides on access roads and at turbine locations.

Response:

The removal of vegetation is necessary to create a safe and stable lay-down area and crane pad at each turbine location and will be done with earth-moving equipment i.e. excavators, bulldozers, etc. There will be no herbicides used in this Project. The areas around the turbines will be allowed to naturally re-vegetate and a small parking area around the base of the turbine will be graveled to maintain limited vegetation growth.

Issue 13: Property Values

- Four public comments were received regarding the negative impacts on property values resulting from the Project.

Response:

The issue of negative impacts on property values has been the subject of much discussion and speculation at many wind development projects. Most often this issue receives the attention during the initial project design phase. Public concerns regarding property values typically cease to be an issue once the wind farm is in place and operating. The impact of wind development project on property values has been studied

in the United States and the United Kingdom and the findings vary between studies. Inconsistency in the findings can be related to the numerous variables associated with the real estate market, specific property features and many other variables of the market place.

Research conducted by the Renewable Energy Policy Project (REPP) examined real estate values at ten wind projects in the US. This study considered property values within the view shed and at comparable properties outside the view of the wind project over a six year period straddling the installation of the wind farm. The findings of the study indicated that “...*the statistical evidence does not support a contention that property values within a view shed of wind developments suffer or perform poorer than in a comparable region*” (Sterzinger et al, 2003, page 4). In fact the study indicates that the majority of properties within the view of the wind farm actually increased in values over those properties with no view of the turbines (Sterzinger et al, 2003).

The results of a detailed statistical study of property values in Madison County New York indicate that wind farm visibility has no measureable effect on the transaction value of homes and that positive or negative impacts cannot be applied universally (Hoen, 2006).

A study by the Royal Institution of Chartered Surveyors (RICS) examined property values in the United Kingdom using a questionnaire based survey method. There was a 21% response to the questionnaires for which 81 surveyors indicated experience where wind farms affected the transactions. The findings of this survey suggest that wind farms reduced property values in approximately 60% of residential cases with 40% having no impact. In the case of agricultural land, the majority indicated no negative impact. The survey also indicated that impacts on land values decrease with time as people adjust to the view (Sustainable Development Commission, 2005).

These studies also indicate that this issue is of greatest concern prior to the installation of the wind development and that subsequent to the wind farm becoming operational, public concerns over property values and other issues largely disappeared.

Based on the available case studies and statistical analyses on property values both within and outside the view plain of wind developments, it is reasonable to conclude, with developments such as the Glen Dhu Project, the impact on property values tends not to be negative and is typically neutral.

References Cited:

Hoen, B (2006) *Impacts of Windmill Visibility on Property Values in Madison County, New York*, Bard Center for Environmental Policy, Annandale on Hudson, NY

Sterzinger, G. Beck, F, Kostiuk, D (2003), *The Effect of Wind Development on Local Property Values*, Renewable Energy Policy Project, Washington, D.C.

Royal Institution of Chartered Surveyors, (2006) *Impact of wind farms on the value of residential property and agricultural land*.

Sustainable Development Commission, (2005), *Wind Power in the UK, A guide to the key issues surrounding onshore wind power development in the UK*,

Issue 14: Negative Economic Impacts

- Eight public comments were received regarding the negative economic impacts in the region resulting from the Project.

Response:

SWI has provided estimates of employment opportunities and project expenditure which will result from the Project under Issue 9. There is strong evidence that wind farms tend to increase economic activity for the retail and service sectors of the economy.

The Pictou Regional Development Authority (PRDA) is looking for additional economic opportunities in the renewable energy sector. As mentioned earlier in the Addendum, Mike Magnus, President and CEO of Shear Wind Inc. was requested to present at a PRDA meeting on November 6, 2008 which focused on implementing Renewable Energy opportunities in Pictou County. The general consensus of, not only the local community, but Shear Wind Inc. also, is that this Project will create employment opportunities, both long and short term, increased economic development through many 'spin-off' activities, as well as significant landowner royalty payments and a major injection of municipal taxes. It is therefore difficult to assess the Project in terms of a negative economic impact on the local economy.

Issue 15: Negative Environmental Impacts

- Seven public comments were received regarding general negative environmental impacts resulting from the Project.

Response:

In 2004, the Nova Scotia Legislature passed the Renewable Energy Standard Regulation under the Electricity Act. This regulation identified the *Renewable energy standard 2010* in Section 5 and the *Renewable energy standard 2013* in Section 6. These sections put into regulation, the requirements for NSPI as one of the Province's "load serving entities" to provide a percentage of its annual sales in "renewable low impact electricity". For 2010, 2011 and 2012, the percentage required is 5%. In 2013, the requirement climbs to 10%. Wind power falls under the definition of a "renewable low impact energy."

Public comments are noted regarding the failure of wind energy, and the Glen Dhu Project in particular, to offset the use of coal and the production of GHG. These arguments must be considered within the context of the above regulations and the provincial energy policy to address GHG emissions. The energy produced by the Glen Dhu Project and the PPA which NSPI has signed with SWI, addresses compliance with Renewable Energy Standard Regulation formulated by the Province of Nova Scotia. NSPI has sole discretion on the application of the power generated by the Glen Dhu Project in terms of its overall production from all sources in the province. The Glen Dhu Project provides the opportunity to reduce dependence on fossil fuel which would otherwise not be available. How that opportunity is realized is outside the scope of SWI's responsibility and this assessment.