



# Report to the Planning Advisory Committee P12-01 Large-scale Wind Turbine Review

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## 1. INTRODUCTION

In early 2012, Council committed to reviewing its regulations for large-scale wind turbines. Through the course of this review members of the Planning Advisory Committee, Council, and the public have raised a number of questions and concerns. Many of these concerns are reviewed in the Health and Safety report prepared by outside consultants. Other issues were examined in previous Staff reports written for the initial large-scale wind turbine regulations development process. The latter can be found on the project webpage ([www.county.kings.ns.ca](http://www.county.kings.ns.ca) → “Popular links” → “Wind turbines”) in the document titled, “2012.01.10 Appendices for Report to PAC.pdf”.

One common public concern that was not reviewed in previous reports is the potential impact of large-scale wind turbines on surrounding property values. Section two of this report, therefore, reviews property value concerns and available research. Other topics not discussed here or in previous reports can of course be researched by Staff at the direction of PAC.

Section three and Appendix A of this report discusses the next steps in the planning process with the aim of facilitating PAC direction concerning if, and how, members may wish to amend the current regulations.

## 2. PROPERTY VALUES

The following reviews property value concerns in a question and answer format.

### **Will wind turbines cause property values to change?**

To date the answer to this question is somewhat unclear. Numerous studies from around the world have tried to address this issue (Hinman, 2010, has an excellent overview of many of these studies). The results of these studies vary wildly, from showing large drops in property values, to no changes, or even slight increases to property values from nearby turbines. However, the challenge in any such study is separating the effect of wind turbines from the effects of other factors on property values, such as the current economy, characteristics of the houses sold (no. of bathrooms, recent renovations, etc.), or the presence of other desirable or negative

features in the neighbourhood. The studies completed to date vary wildly in their methods and consideration of other factors; many studies, including those suggesting a 20-40% drop in property values (e.g. McCann (2010) and Kielisch (2009)), cannot, in the opinion of Staff, be confidently cited because of their failure to address these issues.

Of the studies completed to date, the most thorough and fundamentally complete is Hoen et al. (2009). This study looked at 7459 real estate transactions across the United States. The transactions all occurred within 240m to 8km of large wind turbine projects. The authors were very diligent in their control for different factors, and they looked at the question from a variety of viewpoints and methods (before-and-after sales, near vs. far sales, etc.) to identify and address any shortcomings in their approach. The results of their study suggest that outside of 1 mile (1.6km) from wind turbines, there is strong confidence that there is no evidence of impacts on property values from wind turbines. Within 1 mile (1.6km) of turbines the authors again found no evidence of impacts to property values. However, the results were not as straightforward in this case, suggesting that there may be a higher risk of impacts to property values within a 1 mile (1.6km) distance of turbines.

Since it was published, there have been a number of criticisms of the Hoen study. However, these criticisms tend to arise from an apparent misrepresentation or misunderstanding of Hoen's methods and results, an apparent lack of understanding of statistical methods, or a criticism of industry and media misinterpretations of the study. The last point is an important one: Hoen's study should NOT be interpreted as, "Wind turbines do not impact property values," but rather as, "The authors did not find evidence that wind turbines impact property values."

**Will the Municipality compensate residents if property values drop due to wind turbines?**

No. The issue of property values must be considered in a greater context; the developed landscape in Kings County is constantly changing. Roads, power lines, chicken barns, livestock operations, houses, businesses, parks, schools, industries, and a host of other uses are constantly being built or demolished. All of these changes can have an impact property values, for better or for worse. The Municipality does not take responsibility for effects on property values in these cases; wind turbines are no different.

**Should concerns over property values be an important factor in Council's land use planning decisions?**

No, for a number of reasons Staff do not believe that property value concerns should be an important consideration. As illustrated above, property values are the result of a

complex interaction of many different factors. When it comes to wind turbines there is little consensus on what, if any, impacts turbines have to property values.

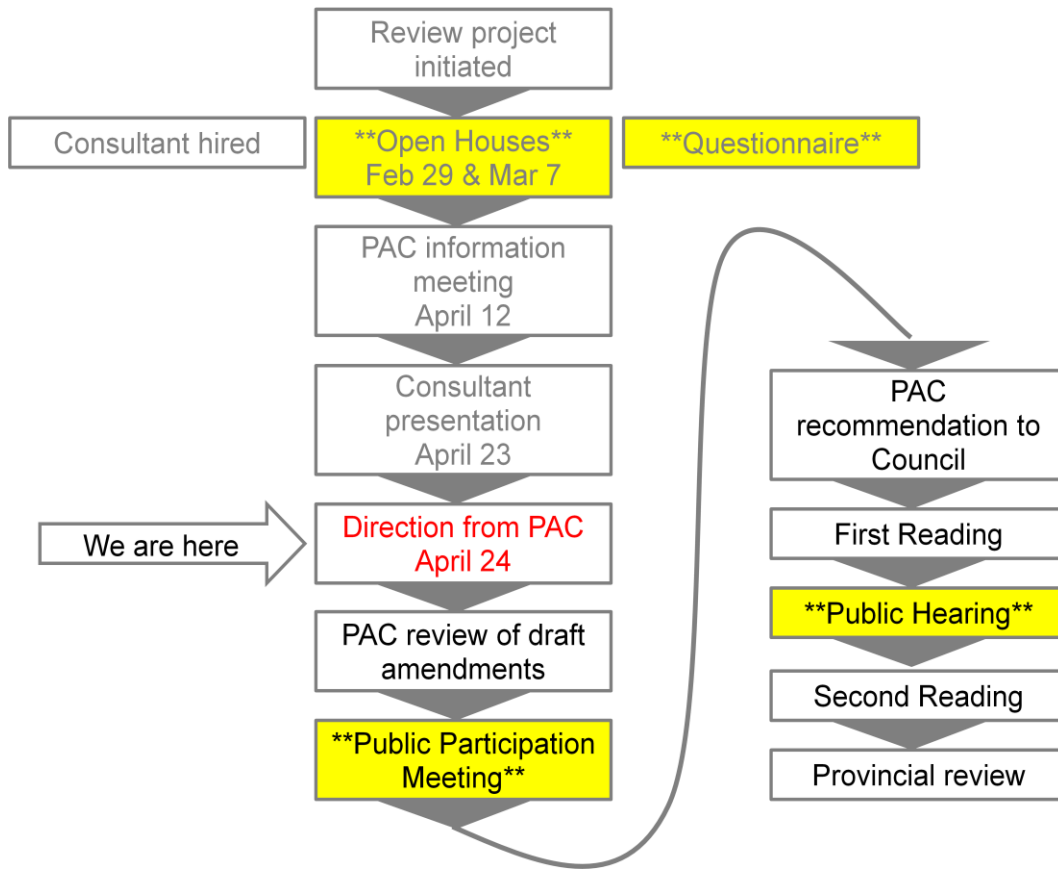
The goal of land use planning is to guide the long-term development of the landscape. For example, Council restricts non-farm development on agricultural land to help preserve agricultural land for future generations. Similarly, Council enables multi-unit development in certain locations to make efficient use of infrastructure and urban amenities. The goal in both cases is not to increase or decrease property values for some individuals, but instead to help shape our community for the long-term public good. When it comes to wind turbines, Staff feel that a similar approach is appropriate.

Another point of view to keep in mind is that any negative impacts to property values that may arise from wind turbines would be a symptom of other impacts from the turbines, such as health and safety issues. Therefore, Staff believe that the thorough consideration of these issues will also help to address the possibility of negative impacts to local property values.

### **3. NEXT STEPS**

The Planning Advisory Committee (PAC) has now received a significant amount of information, including previous reports, the results of the questionnaire and presentations on the Provincial Environmental Assessment process and 14 Wing Greenwood's radar concerns. Now PAC is tasked with providing direction to Staff concerning whether or not, and how, it wishes to amend Council's current regulations for large-scale wind turbines. Please see appendix A for the discussion questions Staff intend to use as a Work Shop guide to obtain direction from PAC.

The chart on the following page illustrates the next steps in the planning process.



#### 4. WORKS CITED

Hinman J. (2010). *Wind farm proximity and property values: A pooled hedonic regression analysis of property values in central Illinois*. Master's thesis: Illinois State University, Normal, Illinois.

Hoen B, Wiser R, Cappers P, Thayer M, and Sethi G. (2009). *The impact of wind power projects on residential property values in the United States: A multi-site hedonic analysis*. Office of Energy Efficiency and Renewable Energy Wind & Hydropower Technologies Program, U.S. Department of Energy, Washington, D.C.

Kielisch K. (2009). *Wind turbine impact study*. Appraisal Group One, Oshkosh, Wisconsin.

McCann M. (2010). *Re: Wind turbine setbacks*. Submission to the Adams County Board, Quincy, Illinois.

# Appendix A - PAC Workshop Guide

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The following questions are intended to help PAC provide clear direction to Staff about whether or not, and how, to amend Council's regulations for large-scale wind turbines. It should be noted, however, that PAC can of course discuss other issues and provide alternative direction.

## 1. Rural Goals

The core aim of Council's Municipal Planning Strategy is to direct people to growth centres and preserve rural areas for resource based land uses. Described as the Growth Centre and Rural Land Capability Concept, the goals state that Council intends to:

- 1.2.3.1 DIRECT THE MAJORITY OF FUTURE POPULATION GROWTH AND ASSOCIATED URBAN SERVICES INTO DESIGNATED GROWTH CENTRES.
- 1.2.3.2 TO PROTECT AND ENHANCE THE HIGH CAPABILITY NATURAL RESOURCE BASE IN RURAL AREAS FOR PRIMARY RESOURCE DEVELOPMENT AND ASSOCIATED RURAL LAND USE ACTIVITIES.
- 1.2.3.3 PROTECT THE CAPABILITY OF THE INLAND LAKES AND COASTAL SHORELAND AREAS TO PROVIDE HIGH QUALITY, SUSTAINABLE RECREATION.

Should Council's approach to regulating large-scale wind turbines be consistent with these goals, statement 1.2.3.2 in particular?

- a) Yes, wind is a natural resource and, therefore, in rural areas, Council should give wind energy development priority over non-resource based land uses, similar to forestry and agricultural land uses.
- b) Yes, wind is a natural resource, but it should not be given the same priority over non-resource based land uses as Council provides agricultural or forestry uses.
- c) No, the Rural Land Capability concept did not consider wind energy and, therefore, consistency with the Rural Land Capability Concept is not important.
- d) Other?

## 2. Renewable Energy Goals

Kings County is currently a net energy importer. While Nova Scotia Power's Black River dam system provides some local renewable energy, the majority of electricity in Kings County is imported from elsewhere in Nova Scotia, which relies heavily on its coal and gas fired power generation plants.

In 2010, Council approved its Integrated Community Sustainability Plan (ICSP), including a commitment to sustainability principles and the Energy Goal "*To reduce the County's dependence on non-renewable energy*". Furthermore, at the Provincial level, the Government of Nova Scotia in 2009 announced that by 2015, 25% of the Nova Scotia's electricity will come from renewable sources.

Are Council's ICSP Energy Goal and the Province's commitment to renewable energy important considerations in Council's approach to regulating large-scale wind turbines?

- a) Yes, these goals are important. Kings County has good wind resources and it is a mature and economically viable industry that can help meet the County's renewable energy goals in the near and medium term.
- b) Yes, these goals are important, but Council should wait and, where possible, foster other sources of renewable energy, other than large-scale wind turbines, with the understanding that making progress on Council's Energy goal will take longer to achieve.
- c) No, these goals are not important because Kings County can rely on other regions to produce more sustainable energy sources.
- d) Other?

## 3. Mitigating Potential Health and Safety Impacts

Health and safety from noise and vibrations is the main concern expressed by the public with respect to large scale wind-turbines. Based on the information provided by the Consultant, and in comparison to approaches to other parts of Nova Scotia, Canada and around the world, should Council's approach to mitigating impacts from noise and vibration and nearby dwellings be:

- a) A vigilant approach that mitigates not only proven risks, but those which may be compelling, if not necessarily proven.

- b) A cautious approach that mitigates only well-established, scientifically proven health risks.
- c) A permissive, but conscientious approach that reduces possible or probable health risks to well established tolerable levels.
- d) Other?

#### 4. Cultural Landscape

Parts of Kings County are currently recognized for their cultural landscape value. The Grand Pre Community Plan, for example, has specifically prohibited the development of large-scale wind turbines to preserve its unique heritage value.

From a cultural landscape point of view, should Council restrict large-scale wind turbines in any other parts of the County?

#### 5. Provincial Environmental Assessment

The Provincial Environmental Assessment (EA) Process is required for all wind projects with a rated power output greater than 2 MW. The EA process considers:

*“environmental (including rare species and those at risk) socio-economic, human health, reasonable enjoyment of life and property, cultural, historical, archaeological, paleontological and architectural features that may be impacted, whether positive or negative, inside or outside the Province, by the proposed undertaking.”*

The EA process encourages proponents to engage and consult with the public in preparing their application, although this is not required. Once an EA application has been registered for review there is a 30 day period in which members of the public are invited to view and comment on the application.

Should Council’s approach to regulating large-scale wind turbines be coordinated with the Provinces Environmental Assessment (EA) process?

- a) Yes, Council should rely on the EA process to regulate larger scale proposals, with Council’s regulations focused on Kings County specific issues and on proposals that do not trigger an EA.
- b) No, the EA process is not adequate and, therefore, Council should also regulate larger scale proposals, in addition to the EA process.

c) Other?

## 6. Public Consultation

Council is consulting the public extensively as it reviews and possibly revises its large-scale wind turbine regulations. Once this project is complete:

- a) Council should not consult the public about each individual proposal.
- b) Council should not consult the public about each individual proposal. However, Council should
  - require wind energy proponents themselves to inform and consult nearby property owners and;
  - encourage financial benefits to be extended to neighbouring property owners and not just the properties containing the proposal.
- c) Council should continue to consult the public on a case-by-case basis, such as through a Land Use Bylaw amendment or development agreement process.

If making decisions on proposals on a case-by-case basis, on what grounds should Council approve or not approve a particular proposal.

- Technical criteria, such as noise modeling
- Subjective criteria, such as community acceptance and support for the project

d) Other?