

# The sights and sounds of wind.



People have a lot of questions about wind turbines and what they look and sound like. Are they really big? How much sound do they make? What will it look like when a wind farm goes up in my community?

Far from being disinterested, developers want to answer these questions and more because building wind farms that address the needs and wishes of local communities is the way to build an industry that benefits all Canadians.



photos courtesy of Vision Quest

## It's not just the view – it's the vision that counts.

### The eye of the beholder.

Let's face it. There's no hiding a wind turbine. They are 30 stories tall and tend to be set in clusters. Having said that, many people find beauty and elegance in these sleek and modern structures. Many of these people are residents who live closest to wind farms.

Studies in Denmark and in other European countries where wind farms are prevalent show that proximity to the nearest turbine seems to have a surprising effect on people's attitudes. Residents who live closer than 500 meters to the nearest wind turbine tend to be even more positive about wind energy than people sited further away.<sup>1</sup>

### Designing for the future.

Developers recognize that visual impacts are a concern for the community. That's why so much effort goes into the planning stages of a wind energy project. Developers are always looking for new and innovative ways to reduce impacts and gain the consent of the community.

There are computer modelling programs that use Geographic Information Systems (GIS) technology to show residents exactly what the landscape will look like once the farm is installed. These programs provide the community with visual answers to their questions. Residents get to see the farm from different perspectives, including how it may look from the local community centre or church – or even someone's living room window.

*“Tour of the windmills was a surprise and very informative. Great exhibit lovely place”*  
*From the visitor guest book in the interpretive centre of the Wind Energy Institute of Canada*

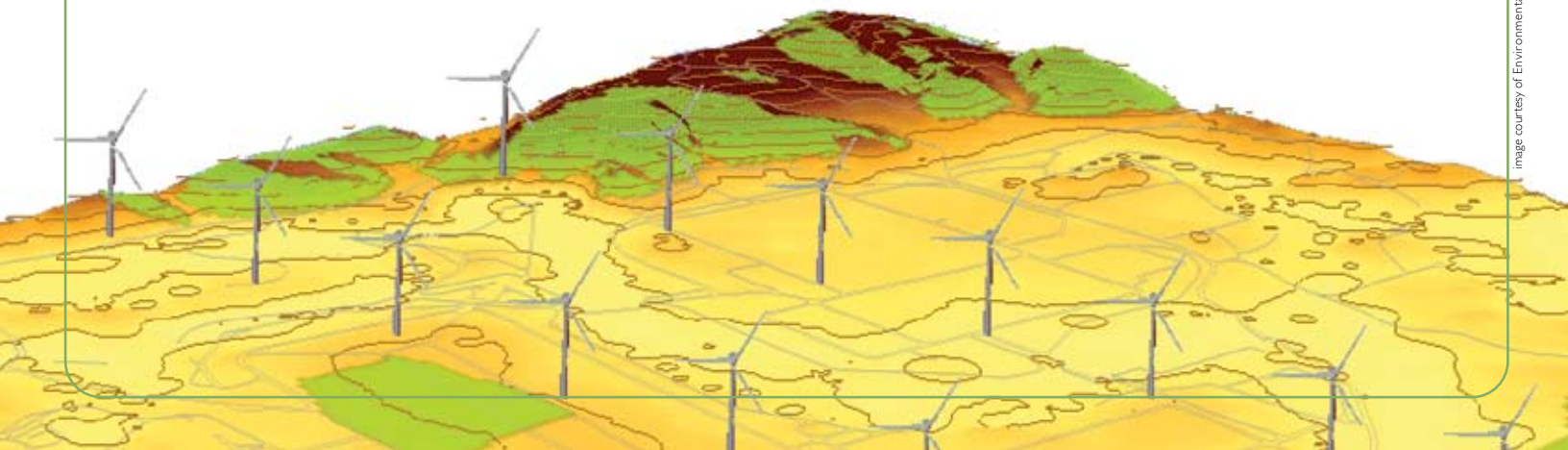




photo courtesy of Vision Quest

Wind Energy Institute of Canada, PEI

Site draws 60,000 visitors annually



Noise reduction.

Are modern wind turbines noisy? The answer is no. Any mechanical device has the potential for mechanical noise – the sound that is emitted when two parts rub together. The good news is that this type of sound has virtually disappeared from today's well-engineered modern turbine.

In fact, turbines are so quiet that it's possible to carry on a normal conversation at the base.<sup>2</sup> At 300 meters from the base, the sound they make has been electronically measured and compared to a whispering voice.

Wind turbines operate under windy conditions, the harder the wind blows the faster the turbines spin. However, much of the sound from the blades is masked by the sound of the wind itself and of the accompanying sound of rustling leaves in nearby trees and shrubs.<sup>3</sup>



Wind farms and popular culture.

Where can wind turbines and wind farms be seen today? If you live near a wind farm, you can always visit. If you don't, you'd be surprised at where wind turbines are turning up. Look closely and you'll see them in TV ads, music videos and in other forms of popular culture. The wind turbine has even made it onto the 51¢ postage stamp from Canada Post!



photo courtesy of WEIC



**Good science constantly helps us discover new information and unexpected results.**

The Atlantic Wind Test Site was established in 1980 and by summer 2006 had evolved into the Wind Energy Institute of Canada (WEICan) – a research and testing facility for wind turbine technology. It is funded 70% by Natural Resources Canada and 30% by PEI Energy Corporation.

This site is home to the most diverse mix of wind turbine designs you'll find anywhere on the planet. Small wind turbines; large capacity turbines; giant "egg beater" vertical axis turbines – and all have generated one completely unexpected result – **tourism!**

The almost universal comment from the 60,000 visitors this site attracts each year is their astonishment at how quiet and how beautiful these wind turbines are.

**Rave reviews** don't end there. Because of the space constraints for WEICan, wind turbines are closer to local dwellings and roadways than would be permitted with present siting guidelines. Despite this, there has not been a single complaint from local residents. On the contrary, locals take great pride in 'their' wind plant and regularly hike along the access roads.

To find out more about WEICan, please visit: [www.weican.ca](http://www.weican.ca)



Canadian Wind Energy Association  
Powering Canada's future naturally

Toll Free: 1.800.922.6932  
T: 613.234.8716 / F: 613.234.5642  
[www.canwea.ca](http://www.canwea.ca)



Natural Resources Canada

Ressources naturelles Canada

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1: Andersen et al. (1997). Rapport om hvordan en dansk kommune blev selvforsynende med ren vindenergi og skabte ny indkomst til kommunens borgere, Nordvestjysk Folkecenter for Vedvarende Energi, Bishop et Proctor (1994).  
2: [http://www.awea.org/pubs/factsheets/WE\\_Noise.pdf](http://www.awea.org/pubs/factsheets/WE_Noise.pdf)  
3: <http://www.bwea.com/ref/noise.html>