

## Fact File

### Huron Wind and the environment

Ontario's first commercial wind farm, Huron Wind, has an environmental policy, which applies to everyone who works for or on behalf of the company. It commits to compliance with environmental legislation, continual performance improvements and the prevention of pollution.

#### Environmental assessments

The Huron Wind project was considered a Category B project under the Ontario Environmental Assessment Act and underwent an environmental screening process to consider any environmental effects. As a recipient of the Canadian Government's Wind Power Production Incentive, Huron Wind was also required to submit environmental



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assessment data to Natural Resources Canada for review. Natural Resources Canada and Huron Wind signed the WPPI agreement at the Huron Wind opening ceremony on Nov. 29, 2002.

The provincial screening process for the Huron Wind site considered the environmental setting and existing conditions. The forward-looking assessment also considered activities to take place during construction, operation and eventual decommissioning or abandonment as well as anticipated cumulative effects of those activities.

#### Geophysical environment

Previously leased to a farmer, the Huron Wind property is a 100-acre, rectangular shaped parcel that was designated by its host municipality as industrial development land. Approximately 85 per cent of the site was used for pasture or cultivation with 15 per cent occupied by woodland. The physiography and topography, soil quality, geology, seismicity and hydro-geology and groundwater of the site were reviewed during the assessment for impact and it was determined there would be little or no effect on the geophysical environment. It was concluded that about 95 per cent of the area formerly used for farming would be available for agriculture after the wind farm was built.



Because of the property's previous use, it was assessed the terrestrial ecology would not be adversely influenced. The plant life would remain more or less the same and the wild life habitat would not change. Special attention was paid to birds because of the tall structures associated with wind turbines. As well as regular studies, a specific review was carried out by an ornithologist into bald eagles, a species that roosts in the area in small numbers and is of particular interest. Although it was determined the wind farm will not disturb birds or specifically the bald eagles, Huron Wind chose to conduct an on-site monitoring program for birds during the first year of operation.

The aquatic environment was not a consideration because there were no streams, wetlands or bodies of water on or in close proximity to the Huron Wind site. It was also deemed in the assessment that Huron Wind would not have an impact on three other environmentally sensitive areas located approximately 2.5 km, 4 km and 90 km from the site.

## **Clean and quiet**

Although wind turbines are generally seen as clean machines that help to avoid the creation of acid gas emissions, smog and global warming, the atmospheric environment still had to be considered in the Huron Wind screening process. Except for some dust that could be mitigated during construction, the project was seen as environmentally friendly when reviewing Huron Wind's impact on climate and air quality.

The socio-economic effects of the project had to be reviewed. These included effects on population, land use, noise, heritage, culture, archaeological sites, recreation, tourism, traditional aboriginal uses, safety issues, and aesthetics.

The wind farm employed a small construction force during its installation, but Huron Wind does not have a full-time work force. Maintenance is only required a few times each year and it is contracted or handled by the Huron Wind partner companies. The overall population of the area was not effected by Huron Wind.

## **Land use**

Land use was not a large factor, although agricultural use of the property was suspended during the installation of the turbines because of construction activities. The property is now available for farming right up to the turbine foundations.

There was to be some noise during construction but the work was done during normal office hours to mitigate disturbance and the noise levels were kept below 85 decibels to conform to municipal bylaws. Some heavy equipment was used in the construction of roads and foundations and then large cranes were used to assemble the turbines. The nearest residents are 400 metres and 1,000 metres away but even so, noise emissions under normal operation are less than 45 decibels at the site boundaries. This is comparable to normal conversation levels.



A historical and archaeological survey of the Huron Wind site conducted by a local scientist found some mid to late 19th century Euro-Canadian artifacts and some structural ruins from a homestead that had been established some time between 1851 and 1858. The area of the ruins was not disturbed during construction of the wind farm and is still intact. Although it is suspected that there might have been aboriginal movement on the property at one time, there is no evidence and the nearest First Nation group is the Chippewas of Saugeen more than 20 km from site.

## **Safety first**

During construction, a fulltime, on-site safety officer was employed to supervise safety and access to site. With construction equipment in use that included cranes with hydraulic fluids, spill control and environmental protection was paramount.

The wind turbine towers are security-armed with alarms and locked. No-trespassing signs are posted on the fence that surrounds the site, which also warn of potential ice-falling hazards during cold weather. An electrical substation on site is locked and fenced in accordance with regulations and electrical hazard signs are posted. Maintenance in the wind turbine nacelles is only a couple of times each year, but municipal firefighters are trained in high-tower rescue because of the wind farm within their jurisdiction.

The Huron Wind turbines are equipped with sensors to detect excessive vibration or imbalances and they have over-speed protection that shuts them down automatically. Although they are self-operating, staff at an Ontario Power Generation control centre in North Bay monitor the performance and have the ability to shut them down remotely. Staff at nearby Bruce Power also monitor site conditions and physically inspect the area to check for any signs of problems.

## **In the eye of the beholder**

Although the wind farm is not on any commercial flight paths due to the proximity of the Bruce Power nuclear generating stations and the high-voltage transmission towers, the nacelles on the wind turbines are equipped with navigational beacons and registered with NAV CANADA.

It is believed the wind turbines do not affect the aesthetics of the area negatively. Directly beside the Bruce Power Visitors' Centre and between two provincial parks, it is anticipated local recreation and tourism will be slightly enhanced by the wind farm. The wind turbines at Huron Wind were painted an unobtrusive light gray, which helps them blend into their setting. The slow rotational speed of the large rotors also gives them a natural, easy look as opposed to the frantic spinning of smaller traditional units. While beauty is in the eye of the beholder, visitors are certainly encouraged to come and see Ontario's first commercial wind farm, Huron Wind.

Increased traffic brought on by the wind farm construction was projected to be inconsequential and has proven so. During delivery, the components for the wind farms

were shipped on trucks from the harbour in Owen Sound early in the morning to avoid traffic congestion that would have been caused by many of the oversized loads. Visitors to Huron Wind are received at the Bruce Power Visitors' Centre which provides parking, washroom facilities and information during normal office hours.

## **In the shadow of the Wind Farm**

The phenomenon of shadow casting, or in the case of the Huron Wind turbines, shadow flicker, is something that can be observed at certain times. Although shadow casting is generally not regulated by planning authorities, it is a consideration when positioning wind turbines in proximity to other developments. The Visitors' Centre to the west of Huron Wind experiences momentary shadow flicking on bright mornings on occasion. Glass and windows are a predominant part of the facility however and normally when the sun is bright enough to induce the shadows, the blinds are drawn to reduce the glare on the eyes of staff and visitors and on the interactive displays, exhibits and computer screens.

## **An environmental choice**

After successful verification of its ability to provide renewable, low-impact electricity, Huron Wind was invited to become a licensee of the Environmental Choice™ Program (ECP), established by TerraChoice Environmental Services Inc. As Canada's only eco-labelling program, products and services certified by ECP are proven to have less of an impact on the environment because of how they are manufactured, consumed or disposed of. The program's official symbol of certification - the EcoLogo - is a registered mark of Environment Canada. Electricity from Huron Wind is listed with other environment-friendly products on the ECP website [www.environmentalchoice.com](http://www.environmentalchoice.com).



**The EcoLogo – a registered mark of Environment Canada**

Huron Wind demonstrates that today's world can be powered without compromising tomorrow's resources.