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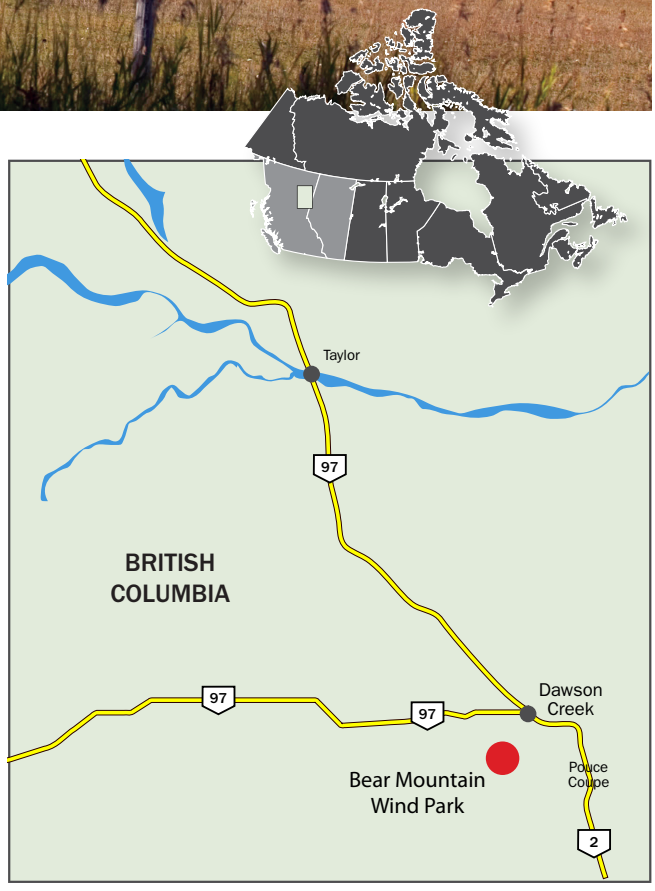
Bear Mountain Wind Park

AltaGas' 102-MW Bear Mountain Wind Park, located near Dawson Creek, is British Columbia's first fully-operational wind park.

In October 2009 the Park was commissioned and fully connected to the BC power grid. Today it delivers enough clean, renewable electricity to power most of BC's South Peace region. The power from the project is sold to BC Hydro under a 25-year contract.

Bear Mountain Wind Park features a single row of 34 3-MW Enercon E-82 wind turbine generators. Each turbine is 78-metres tall to the hub. The turbines are placed at minimum, 160-metres apart along the ridge of Bear Mountain. The site, which covers approximately 25 hectares, is still used for cattle grazing and by the public for hiking, snowmobiling, cross country skiing and other recreational activities.

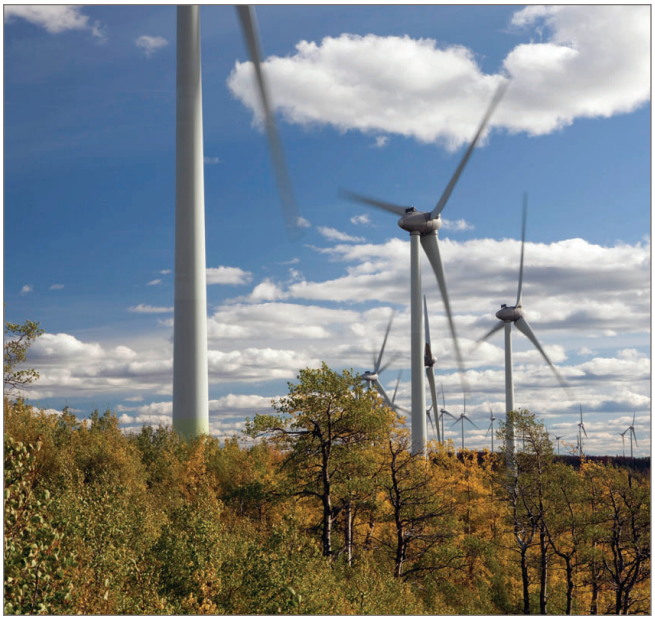


Project History

In 2004, Peace Energy Cooperative, a Dawson Creek-based community group, acquired the exclusive right to investigate and develop Bear Mountain for a commercial-scale wind park. With high winds and a close proximity to existing infrastructure such as roads and transmission lines, Bear Mountain was an ideal location for a wind park. In 2006, BC Hydro awarded a contract to Bear Mountain Wind Park.

AltaGas broke ground in December 2007. Once the roads and the site were prepared, foundations were poured. Fifty truckloads of concrete were required for each of the 34 foundations. Approximately 350 cubic meters of concrete was poured continuously for 10 hours. This amount of concrete is the equivalent of foundations for 70 typical homes. Each foundation has approximately 72,000 pounds of rebar and weighs a total of 1,730,000 pounds—equivalent to the weight of approximately 22 loaded 18-wheelers.

Once the foundations were poured, the substation and electrical work was completed. AltaGas had a relatively short window of opportunity to erect turbines during the summer and early fall of 2009. Due to the windy conditions on site, turbine towers and blades could only be lifted by the high capacity cranes on calm days. The park went live October 24—on budget and ahead of schedule.



Environmental Assessment

AltaGas takes the potential impacts on wildlife and vegetation seriously and, to obtain our environmental certification, we committed to both pre and post-construction surveys and ongoing monitoring programs.

Like any other major development or project, BMWP was subject to provincial and federal environmental assessments (EA). The intent of the EA process was to identify and address any foreseeable adverse effects throughout the life cycle of the project – including construction, operation, and decommissioning – and to determine ways to avoid, eliminate, minimize or mitigate those effects.

The Environmental Assessment was completed by qualified professionals and addressed such environmental components as:

- Geology
- Wildlife
- Hydrological and water quality
- Vegetation

For each component there was a background study of available information, assessment of features in the field, mitigation measures recommended to reduce environmental impacts from the project, and monitoring recommendations to ensure construction and reclamation success.

Many steps were taken to reduce environmental impacts. We minimized the effects of the turbine sites by locating them in areas where there was a lower potential to damage the terrain. As well, we were sensitive to raptor flight patterns. We set turbines back an additional 50 meters from the ridge to avoid an updraft area that raptors frequent for hunting. Site excavation, adjacent work areas and spoil piles were engineered to minimize erosion, contamination and impact to vegetation. Archeological and/or sacred areas were identified and roped off and sites were developed around them so as not to disrupt the areas. We refrained from clearing trees during nesting and breeding season to avoid disturbing wildlife, and limited unnecessary clearing by using existing access roads.

By minimizing the areas to be cleared of vegetation for roads, transmission lines, and turbine foundations (the number of turbines was cut from 60 to 34), we were able to reduce the amount of habitat lost

or altered, which also minimized direct and indirect impacts on vegetation. Areas that have been impacted during construction, but are not required during operation, were restored to their pre-disturbance state using native species.

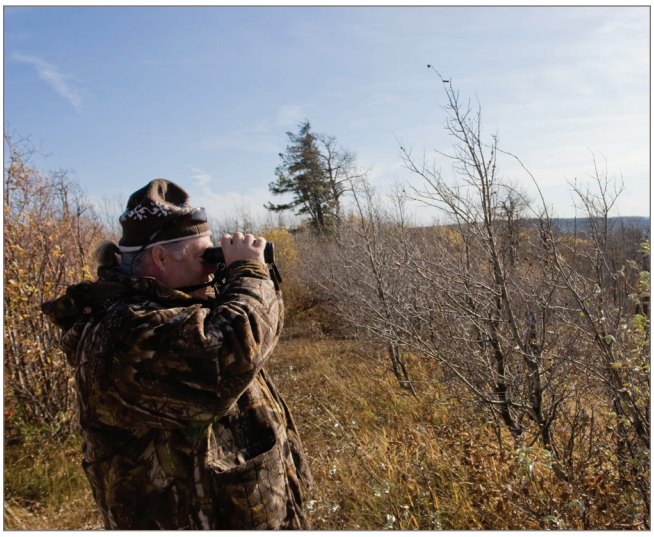
Bird And Bat Monitoring

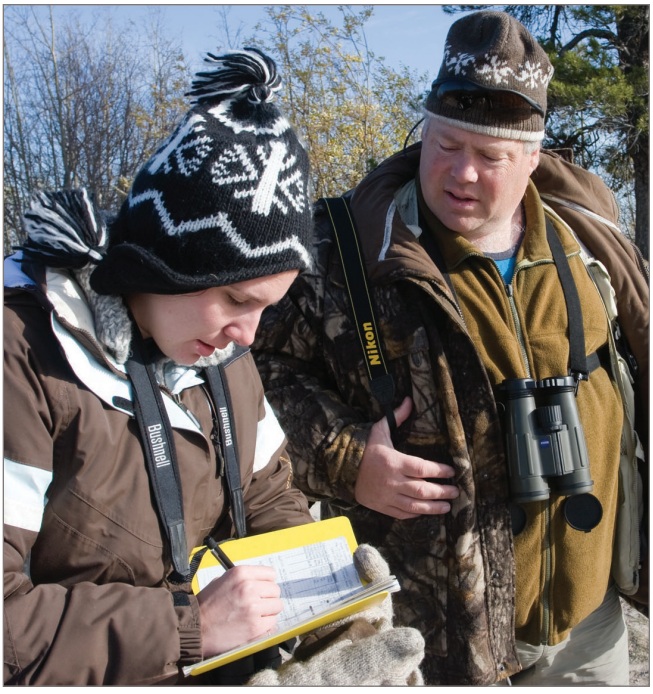
Through our studies and monitoring we identified the types and numbers of species that occur in the area and the level of bird and bat activity near turbine sites. These factors then helped us to identify and evaluate the potential effects of the park on wildlife and how mitigation may be applied.

Migratory bird and raptor monitoring started in the fall of 2007 and will be conducted for two years after commissioning. Following the second year of operational monitoring, the results will be evaluated and at this time it will be determined if any additional requirements for the third year are appropriate. Monitoring for bat migration has occurred every fall since 2007 and will end in 2010; however, the operational monitoring schedule is subject to revision by authorities.

During operation, the migratory bird and raptor surveys will be conducted during peak migration periods. Survey locations will be sampled several times and evaluated to determine future sampling frequencies. The data to be gathered will include items such as: time observed, number of birds, and flyover height.

The AnaBat detectors used to monitor bats pre-construction, plus three additional detectors, will be located on site during operation to conduct subsequent monitoring. Sampling of bat activity will be recorded continuously by the AnaBat system during the migratory periods.





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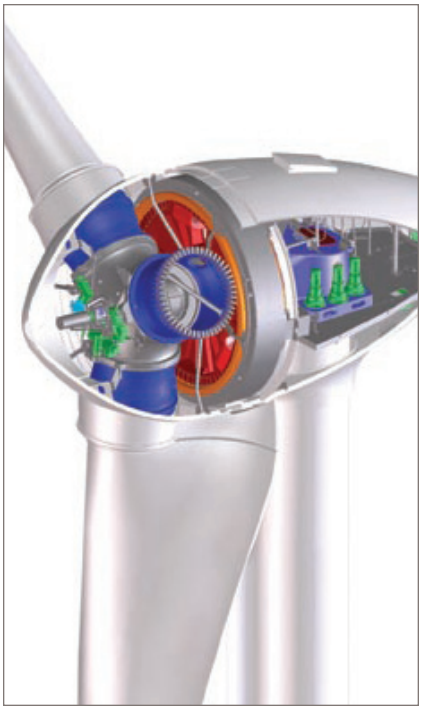
The Enercon E-82 Turbine System

Bear Mountain Wind Park uses Enercon E-82s, the most sophisticated wind generators in the world today. Enercon has over 10,000 turbines installed world wide, and is one of the most respected names in wind turbine technology.

The Enercon E-82s are designed to function in weather and climate conditions similar to those experienced on Bear Mountain and are specially designed for the area's wind speeds. The Enercon rotor blade is a modified design that draws energy from the outer edges, and also uses the inner part of the swept area to increase power output. The streamlined blades are less susceptible to turbulence than traditional blade designs and provide even flow along the entire length of the blade profile. The fibreglass blades will rotate cloc wise with tip speeds from 25 to 80 m/s.

Some features of the E-82 include:

- Gearless rotor—less maintenance and longer life
- Unique blade design—reduces sound and stress, while increasing energy yield
- Turbine blades—slow rotation rates of between six and 19.5 rotations per minute
- Tapered tower design—visually pleasing; no perches for birds
- Ice detection and load imbalance monitoring
- Sophisticated storm control system
- 24 hour monitoring



Technical Data

Rotor diameter: 82 m
Hub height: 78 m
Turbine concept: Gearless, variable speed, variable pitch control
Direction of rotation: Clockwise
Number of blades: 3
Swept area: 5,281 m2
Blade material: Fibreglass (epoxy resin); integrated lightning protection
Speed: Variable, 25-80 m/s
Braking systems: 3 independent blade pitch systems with emergency supply
– Rotor brake
– Rotor lock
Remote monitoring: Enercon SCADA

Contact Information

An open dialogue with the community is important to us.

If you have any questions or comments regarding the wind park, please feel free to contact:

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