



Canadian Wind Energy Case Studies

January 2004

Pincher Creek, Alberta

Located in the Southwest corner of Alberta, the Municipal District and Town of Pincher Creek are quickly become one of Canada's strongest wind energy regions. Covering an area of 3,366 square kilometers, the Municipal District also has transportation and access responsibility for an additional 2,300 square kilometers of crown land. The area has a population size of 6,810, with 3,660 living in the Town of Pincher Creek.

Historically, the economy has been dominated by agriculture, particularly the beef industry. However, there is also significant natural gas extraction in the region along with limited forest harvesting. Tourism is also a growing industry due to the region's scenic beauty and ecological biodiversity.

The Municipal District is bordered by the Waterton International Peace Park, the state of Montana and the province of British Columbia, resulting in an abrupt transition from mountains at over 4,000 meters above sea level to grasslands at only 1,000 meters above sea level. It is this rapid geographical shift that provides the region with excellent

wind resources that is ideal for wind energy development.

Development in the wind industry first began in 1993 with the construction of a 19 MW wind farm in the region. By January 2004, the Municipal District of Pincher Creek was home to 145 wind turbines representing 96 MW of installed wind power capacity – equivalent to 30% of Canada's total – and producing enough electricity to meet the needs of more than 35,000 homes.

It is important to note that Pincher Creek has only begun to scratch the surface of its wind power potential. A new 68 MW wind farm is currently under construction and three additional projects, representing 155 MW of wind energy capacity, have been approved for development.



Wind Power Benefits

Public awareness and concern over the environmental impacts of conventional electricity production continues to grow. From an environmental perspective, Wind energy is a proven electricity source that does not contribute to climate change, air and water pollution, destroy habitat, or generate solid, toxic or nuclear wastes. Wind Energy can be substituted for other forms of electricity production to decrease environmental concerns arising from the electricity sector.

A single wind turbine (660 kW) in an average year will produce 2,000 MWh of electricity, enough power for over 250 Canadian homes. Using wind to produce electricity rather than burning coal will leave 900,000 kilograms of coal in the ground and reduce 2,000 tonnes of greenhouse gases annually, the same positive impact as taking 417 cars off the road or planting 10,000 trees. Newer and larger wind turbines will result in an even greater positive impact. *Canada now has 326 MW of wind energy capacity and CanWEA's goal is 10,000 MW by 2010.*

Local Economic Impacts

Over the last 10 years, the construction of wind energy projects has injected more than \$10 million dollars into the local economy through the hiring of local tradespersons and the purchase or rental of equipment, materials, accommodation, and fuel.

Wind energy developments are also providing long-term economic benefits to the community. As of January 2004, the wind energy industry:

- Has seen three wind power companies establish head offices or field offices in Pincher Creek
- Created 21 new full-time jobs in the Municipal District of Pincher Creek with an annual payroll of \$1.4 million
- Was projected to pay \$900,000 in taxes directly to the municipality in 2004 under linear assessment, and was providing

lease income to landowners (paid as a flat rate or percentage of production) at an average rate of \$3,000 / MW for every turbine installed on a property.

In addition, Pincher Creek has a steady stream of visitors who support the local economy when visiting wind energy developments through field tours and educational seminars that have drawn people from as far as Russia. The Canadian Wind Energy Association's 2003 Annual Conference was held in Pincher Creek and resulted in \$181,000 being invested directly in to the local economy. While a "Naturally Powerful Pincher Creek" logo patented by the Pincher Creek and District Chamber of Commerce has facilitated in \$5,000 worth of annual sales of clothing and souvenirs that are associated with the wind energy industry.

Public Attitudes

Community round tables held in March 2002 indicated that 96% of the community strongly supported the wind energy industry. This strong public support is a reflection of the fact that wind energy provides a new "cash crop" for farmers in this heavily agricultural region – particularly important in an era where small farmers find it hard to make ends meet and the beef industry wrestles with public concern over mad cow disease. In addition, residents recognize the need for economic growth and

expansion that complements traditional agricultural pursuits by providing employment outside of the agriculture industry and a more vibrant service and business community.

Importantly, extensive professional surveys have demonstrated that Pincher Creek's wind energy projects have not had a negative impact on bird populations and public concerns about the "visual impact" of wind turbines on the community have been limited.



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