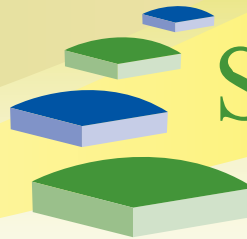




# WIND ENERGY OPPORTUNITY PROFILE



# SouthGrow

Regional Initiative

*Creating Opportunities...*

## We Are...

- City of Lethbridge
- Town of Cardston
- Town of Claresholm
- Town of Coaldale
- Town of Coalhurst
- Town of Magrath
- Town of Milk River
- Town of Picture Butte
- Town of Raymond
- Town of Taber
- Town of Vauxhall
- Town of Vulcan
- Village of Barons
- Village of Carmangay
- Village of Coutts
- Village of Champion
- Village of Milo
- Village of Nobleford
- Village of Stirling
- Village of Warner
- Cardston County
- County of Lethbridge
- MD of Taber
- Vulcan County
- County of Warner
- Blood Tribe

Wind energy is the fastest growing source of electricity in the world, increasing in excess of 30 percent annually for the past five years. Soaring global energy costs and advances in technology are making wind power a clean and viable choice for energy.

In Canada, there is more than enough wind potential to make a difference. In 2006, wind energy powered 315,000 Canadian homes, with the potential to provide 20 percent of our electricity needs (or powering 17 million homes) by simply using untapped wind resources.

Wind turbines can be small or large. Small turbines generate 300 kW or less and give farmers and businesses a chance to generate their own electricity via one or two turbines located on their property. Large turbines and the farms that house them produce more energy more efficiently, resulting in cost effectiveness. Not only has the cost of wind-generated electricity dropped more than 80% over the last 20 years, the average turbine in Canada generated 1.5 MW today versus 600 kW five years ago. The time for a wind turbine to generate the same amount of electricity as was used for its manufacture (energy payback time) is three to eight months.

## The Potential

With increasing costs of natural gas and oil in North America, jurisdictions in Canada and the Western United States are looking at alternate energy to supplement and reduce energy costs to the consumer. To demonstrate activity levels in Canada, wind energy projects under construction or awarded a PPA in provinces of Canada are:

British Columbia	0 MW
Alberta	80 MW
Saskatchewan	60 MW
Manitoba	84 MW
Ontario	1310 MW
Quebec	1244 MW
Newfoundland	0 MW
Prince Edward Island	0 MW
Nova Scotia	62 MW
New Brunswick	20 MW

Meanwhile, total US wind energy capacity as of June 2005 is 6,740 MW. Bordering states (those along Canamex corridor and/or connecting to the adjoining interstate transportation systems), have planned capacity goals of:

Montana	695 MW
North Dakota	181 MW
Wyoming	203 MW
Colorado	130 MW
Oregon	75 MW
Washington	374 MW
California	438 MW
Idaho	444 MW
Utah	0 MW
New Mexico	140 MW
Texas	759 MW

The Canadian Wind Energy Association (CanWEA), a non-profit trade association that promotes the appropriate development and application of all aspects of wind energy in Canada has set the goal of achieving 10,000 MW of installed wind energy capacity in Canada by 2010. Given the targets for wind energy in Canada and the planned capacity goals for the bordering United States along the CanaMEX corridor, there is large potential for wind turbine manufacturing and assembly.



## Fast Facts:

Wind energy is the fastest growing source of electricity in the world, increasing in excess of 30 percent annually for the past five years.

In 2005, the total annual payroll associated with the jobs created associated with wind energy in Canada was just \$50 million per year. With planned capacities at the levels they are at, the opportunity for employment is exponential.

At the federal level, the Wind Power Production Incentive (WPPI) subsidizes a portion of the cost of establishing a wind farm for the first ten years.

Currently, the five biggest wind turbine manufacturers are Denmark's Vestas Wind Systems, Spain's Gamesa, Germany's Enercon, USA's GE Energy, and Germany's Siemens. In addition, world wide, there are over 35 companies that manufacture small wind turbines (300W to 300kW).

## Sector Supports:

The following are organizations and agencies that can provide support for those wishing to seize the opportunity:

Natural Resources Canada  
[www.nrcan.gc.ca](http://www.nrcan.gc.ca)

Canmet Energy Technology Centre  
[www.nrcan.gc.ca/es.etb](http://www.nrcan.gc.ca/es.etb)

Energy Innovation Network  
[www.energyinet.com](http://www.energyinet.com)

Canadian Wind Energy Association  
[www.canwea.ca](http://www.canwea.ca)

Southern Alberta Alternative Energy Partnership – [www.saaep.ca](http://www.saaep.ca)

## An Overview

Wind energy is significant in terms of business, worth over \$25 billion worldwide in 2005. The industry is doubling in size every three years. In Canada, wind energy can be increased in terms of output, and will result in investment and job growth for Canadian workers. With the longest coastline in the world (243,792 km or 151,485 miles) and some of the world's largest open spaces, Canada has one of the best wind resources in the world. In 2005, the Government of Canada expanded its Wind Power Production Incentive (WPPI) so it could support the development of 4000 MW of wind energy by 2010.

Alberta is a leader in the development of wind energy. Alberta power generating companies/ developers are at the forefront of wind energy projects throughout Canada.

Alberta has a target of 500MW to come from new renewable energy sources by 2008. The vast majority will be wind energy. Alberta currently has the largest installed capacity at 275.4 MW.

## The Opportunity

In December 2006, Canada surpassed one gigawatt or a billion watts of installed wind-power capacity, making it the 12th country in the world to surpass this threshold. Ernst and Young Renewable Energy Group have cited Canada as the seventh most attractive country for investment in wind power over the long term. Given the potential that wind energy provides in the country, SouthGrow Regional Initiative has the opportunity to attract:

- Wind energy related equipment manufacturers and supply companies.
- A major company to set up operations, either for full manufacturing or assembly.
- Subcontractors or suppliers of components to locate or partner with an existing SouthGrow entity for manufacturing or fabricating.

Employment in the sector consists of:

- Manufacturers who build the turbines and components
- Project developers who oversee the creation of wind farms
- Consultants who conduct the necessary assessment needed for project approval
- Local construction teams who build the wind farms

## The SouthGrowN Advantage

### • Location

SouthGrow is one of the best locations in Canada for generating wind energy. It has excellent wind sources that are land-based, and have close proximity to population centres and grid systems. Other areas are either offshore or in northern locations.

### • Transportation Infrastructure

SouthGrow is a central location to the majority of the wind energy activity in Canada and the Western United States. It is located on the CanaMEX corridor and has excellent transportation connections to the interstate systems in the U.S. As well, it has excellent transportation access by road and rail along Canada's major east/west corridor.

### • Knowledge

Alberta is a leader in the development of wind energy. Alberta power generating companies/developers are at the forefront of wind energy projects throughout Canada.

### • Low Cost

Real estate costs in the region are less than those in other major centres in Western Canada, and the province has a competitive corporate tax rate for manufacturers and processors. There are no capital or payroll taxes, and no provincial sales tax. Albertans also benefit from the lowest overall taxes in Canada.

### • Population

Growth due to in migration from both domestic and international sources is expected to continue.



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