

Wind Energy

Southern Alberta

Alberta's Energy Vision

A global energy leader, recognized as a responsible world-class energy supplier, an energy technology champion, a sophisticated energy consumer, and a solid global environmental citizen.

Alberta's Abundant Resource

Wind power is the fastest growing source of electricity globally showing an annual average increase of approximately 30% over the last five years.

Currently in Alberta there are over 540 megawatts connected to the power grid. Wind has the potential to provide 20 percent of Canada's electricity demand; the equivalent of 17 million homes. This indicates there is need for development with such a renewable energy resource. Currently there are approximately 70 wind development projects totalling 12,000 Megawatts, with a large portion in southern Alberta.



Consumer surveys also show preference to wind power due to its benign environmental effects.

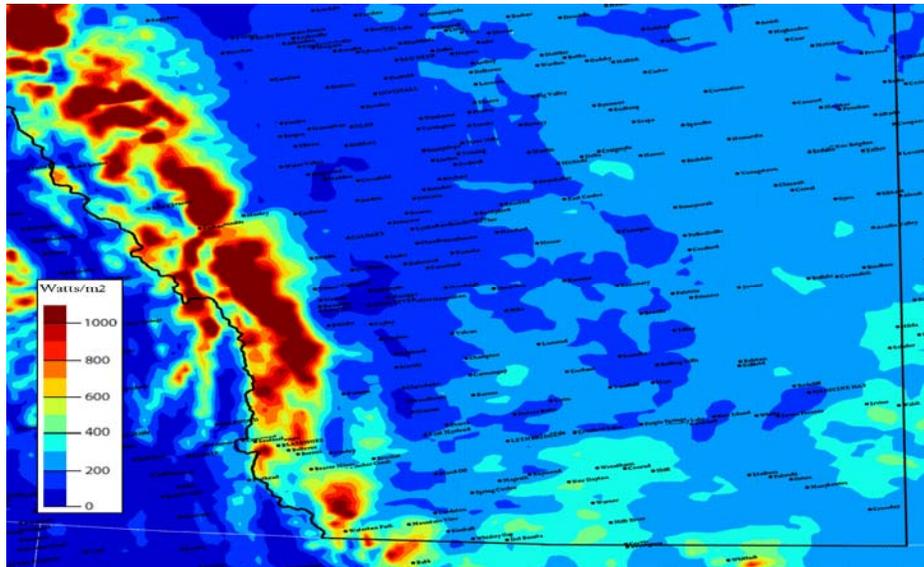
As of 2007, Canada ranked eleventh in wind generation per capita and total wind capacity. This can change with more investment into wind energy with Canada's most wind-rich area, Southern Alberta, leading the way in development.

Southern Alberta – The best place to produce wind energy

The Alberta Utilities Commission has announced the development of a 240-kilovolt transmission line from Pincher Creek to Lethbridge. This line is being built specifically to support the expansion of wind energy in Southern Alberta.

Wind is a natural resource that flourishes in Southern Alberta. Currently 100% of the wind farms in Alberta are situated in its southern portion as this wind has the highest potential for power generation (as shown in the figure below). The typical house uses 8.9 Megawatt-hours.

Potential Wind Generation



Research and Development (R and D) for Wind Energy

- As of 2001, wind costs were in the range of 6.5 to 10 cents/kWh. Due to R and D, it is expected that by 2025 costs will decrease to 4.5 cents/kWh. Over the last twenty years the cost of wind-generated electricity has dropped by 80%.
- Alberta has shown an interest in supporting R and D by recently announcing an incentive program. The program offers a tax credit of 10 per cent of a company's eligible expenditures up to \$4 million, for a maximum credit of \$400,000. In addition to the tax credit, the plan includes various measures such as a government-sponsored venture capital agency seeded with \$100M and a "technopreneurship" program aimed specifically at youth.
- Southern Alberta is home to the **Lethbridge College** - the only post-secondary institution in Canada approved to deliver the BZEE¹, which is the international standard for wind energy training. The college partnered with Southern Alberta Alternative Energy Partnership (SAAEP) on the Wind Energy Cluster Action plan and is expected to promote the development and manufacturing of wind power in southern Alberta.
- On a national level, the **Wind Energy Institute of Canada** lists thirteen sources of funding that can be utilized by projects focused on research, development, and demonstration of wind energy.

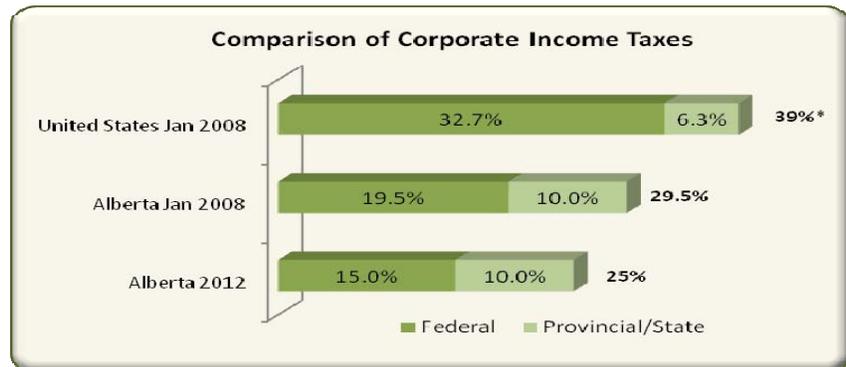
Wind Generation Incentives

- The Alberta government recently passed the micro-generation regulation, which is intended to promote development of environmentally friendly energy by electricity customers. Any unused electricity produced can be sold back to the grid. To qualify as a micro-generator, the customer must use renewable or alternative energies, be sized to meet all or a portion of the customer's electricity needs, have a generating capacity smaller than 1 Megawatt, and produce electricity primarily for the customer's own use.

¹ BZEE (Bildungszentrum Erneuerbare Energien) is an internationally recognized standard for wind energy training.

Southern Alberta's Competitive Advantages

- The Alberta government is very open to investment and support of developing businesses. Support comes primarily through offering low level of taxes.



*6.3% represents the average effective top general state corporate income tax rate U.S. rates know as of January 2008
 Source: Alberta Finance and Enterprise & Federation of Tax Administrators

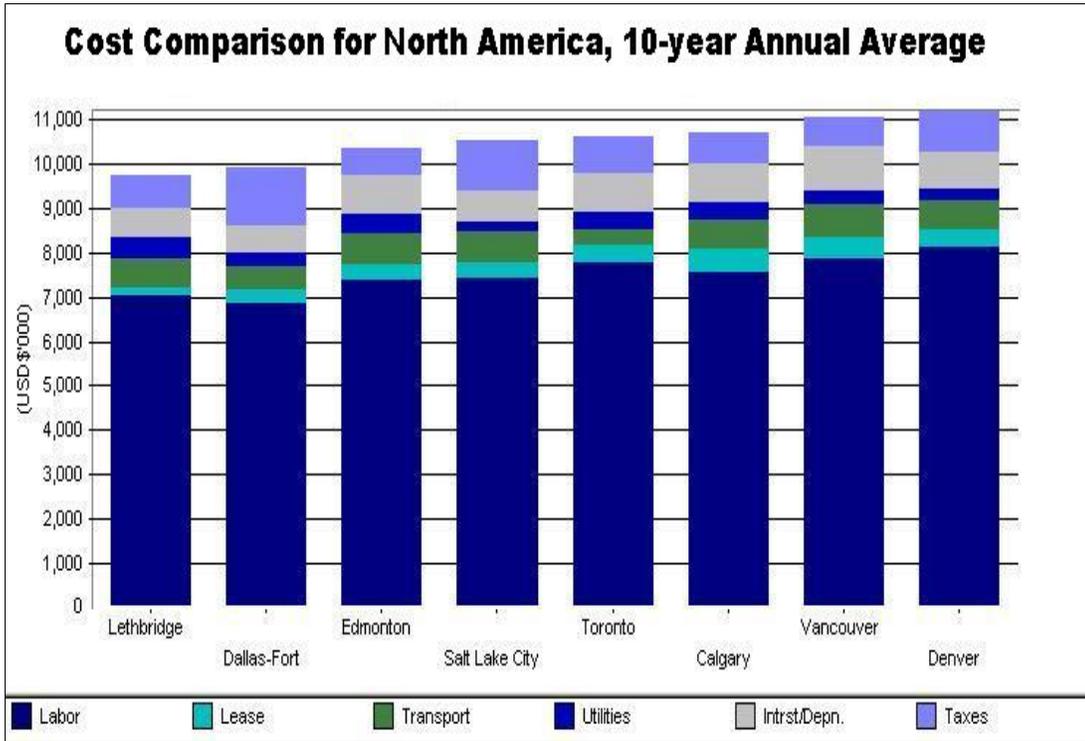


Note: Includes Surtaxes
 Source: PWC Tax News Network, April 25, 2008

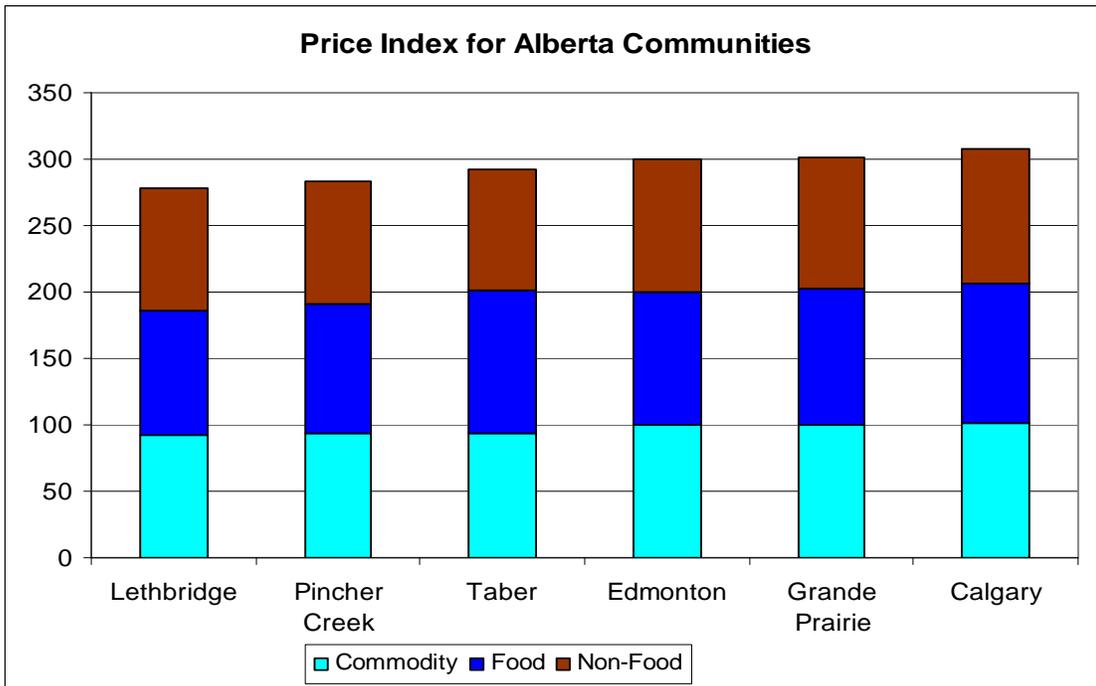
- Along with a low corporate tax rate, Alberta is the only province to omit a provincial sales tax and exclude provincial capital or payroll taxes (quite common in other provinces and U.S. states).
- Personal tax levels in Alberta are the lowest in Canada as indicated by the figure to the left

- Alberta has the most productive labour force in Canada with a productivity of \$66,636 GDP/capita.
- Alberta's health care system is second-to-none offering a wide range of services from emergency health-care to free health information. As of January 1, 2009, Albertans are no longer required to pay the Alberta Health Care Insurance Plan.

Southern Alberta's cost of conducting business is very low when compared to other regions in North America.



Southern Alberta has a very low cost of living index for commodities, food and non-food products as represented in the chart below.



Southern Alberta has some of the best transportation networks in North America. It is a part of the Canamex corridor, which links together Canada, the United States, and Mexico. Additionally, rail and air access is excellent.

Close proximity to the north-western US provides great access to over 10 million people. Along with the nearly 10 million people that live in Western Canada, southern Alberta provides excellent market access.



SAAEP

SAAEP consists of three partner organizations:

- Economic Development Lethbridge
- SouthGrow Regional Initiative
- Alberta SouthWest Regional Alliance

Working in collaboration to develop an alternative energy industry in the region, SAAEP's primary focus is to make southern Alberta the renewable energy hub for Alberta, and possibly western Canada.

Key Links and Contacts

SAAEP leads the development of alternative energies in southern Alberta	www.saaep.ca
Wind Energy Institute of Canada focused on the research and development of wind energy in Canada	www.weican.ca
Canadian Wind Energy Association promotes the development and application of wind energy in Canada	www.canwea.ca/index_e.php
Canadian Wind Energy Atlas provides data on wind velocity and power for Canada	www.windatlas.ca
Windustry promotes the development of wind energy as an environmentally sustainable, community-owned asset	www.windustry.org
Natural Resources Canada is the Canadian ministry responsible for the development of Canada's natural resources	www.nrcan.gc.ca
University of Lethbridge is a leading Alberta university in the research of wind energy	www.uleth.ca
Lethbridge College provides training for wind energy technicians	www.lethbridgecollege.ab.ca