

The business of wind.



Wind energy is big business. Worldwide, it was worth over \$25 billion dollars in 2005.¹ The potential for growth is astounding with the industry now doubling in size every three years. Several countries count on wind energy to provide 5% of their electricity and Denmark now gets 20% of their electricity from wind.

So where does this leave us? In Canada, we have a burgeoning industry and the future is full of potential both in terms of increased output, investment and job growth for Canadian workers.



photo courtesy of Vision Quest.

Leading with the wind.

The people behind wind energy. A global snapshot.

There are a lot of people and companies that stand behind wind energy in Canada. These firms include the manufacturers who build components, project developers who oversee the creation of wind farms, consultants who conduct all the necessary assessment needed for project approval, and the local construction teams who actually build the farms themselves. All these people and the hundreds of companies that make up the wind energy industry have very different specialties. They are bound together, however, by their belief that wind energy represents a tremendous economic opportunity for all Canadians.

So how big is the global wind energy industry? The amount of electricity generated by wind power is growing steadily and predicted to continue its rise. Wind farms now produce 59,000 megawatts of power worldwide. That's the equivalent of producing enough electricity to power 18 million households.

Aside from creating electricity, the wind energy industry also creates jobs. Where the wind energy industry is most prominent there is a well-established track record of permanent jobs. Many of these jobs are in manufacturing the turbines and components themselves with large multinational companies providing most of the work. There are 100,000 people employed in the wind energy industry in Denmark, Germany and Spain. In Canada, we foresee that steady growth in the industry will provide an increasing number of jobs within the industry.

In addition to employment in the development, installation and service sectors – Canada manufactures most of the steel towers for our wind farms. More than 300 people currently work at wind turbine tower manufacturing facilities in Quebec and recent investments of more than \$100 million are supporting new manufacturing facilities in Saskatchewan and Ontario. Each of these 132,000 kg towers contain enough steel to manufacture 206 average North American automobiles.*

*Based on 1.8 MW wind turbine towers





Heavyweights of wind

The 5 biggest wind turbine manufacturers

Government and wind energy.

In Canada, both federal and provincial levels of government believe in renewable energy – and they believe in wind energy in particular. At the federal level, the Wind Power Production Incentive (WPPI)² subsidizes a portion of the cost of establishing a wind farm for the first ten years. At the provincial level many targets have been set for renewable energy, which provincial utility companies are encouraged to meet. In Canada, our government has recognized that wind energy is good for Canada and good for Canadians.

CanWEA and you

The Canadian Wind Energy Association (CanWEA) is the voice of Canada's wind energy industry. We are a non-profit trade association that promotes the appropriate development and application of all aspects of wind energy in Canada, including the creation of a suitable policy environment.

CanWEA is proud to represent our more than 230 members. Our goal is to develop policy, communicate with stakeholders and advocate for the industry and for the benefit of all Canadians who want a clean and renewable energy source to power us into the future. Want to learn more about what we do? Visit us at www.canwea.ca today.

Canada's wind energy industry.

Although substantially smaller than our European cousins, the Canadian wind energy industry is showing impressive growth with an average annual increase of over 30% for the last 5 years.

A recent report shows that wind energy firms are optimistic about future growth – and they aren't alone. Canadians too believe in the power of the wind energy industry to create jobs. A recent survey showed that 88% of Canadians believe that wind energy can play a role in economic development and job creation. In 2005, the total annual payroll associated with the jobs created in Canada is just under \$50 million per year.³

We've also set out some exciting challenges for the Canadian Wind Energy industry. One of our objectives is to have 10,000 megawatts of wind-generated electricity by 2010 – the same year that Canada will host the Winter Olympics. This has the potential to generate over \$20 billion dollars of industry investment.

Want to learn more about the companies that power the wind energy industry? Go to www.canwea.ca/en/membersdirectory.html



photo courtesy of Vision Quest

Denmark's Vestas Wind Systems, with 34% market share⁴, is the world's largest wind turbine manufacturer. Vestas employs 10,600 people and has production facilities in Denmark, Germany, India, Italy, UK, Spain, Sweden, Norway and Australia. In 2005, annual revenues reached \$4.94 billion and they sold wind turbines with a total capacity of 3,185 MW worldwide.⁵

Spain's Gamesa, with 18% market share⁴, employs 8,203 people and is the only fully integrated wind power service provider in the world. Wind turbine manufacturing accounts for 2/3 of their annual revenues of \$2.54 billion and wind farm development makes up the remaining 1/3.⁶

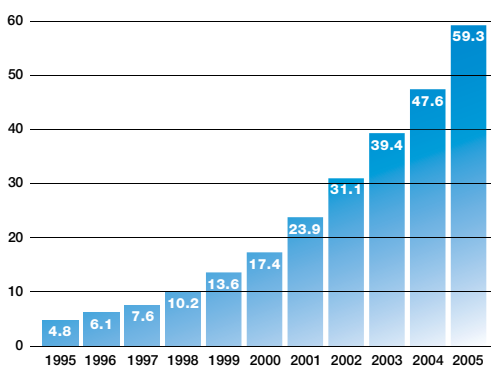
Enercon (Germany), GE Energy (USA) and Siemens (Germany) account for 15%, 11% and 6% of the global market respectively.⁴

Enercon has sales offices in 17 countries and owns a majority share of Enercon India. They have installed over 9,000 wind turbines globally with a total capacity of 9.1 GW.

GE Energy's annual revenues exceed \$2 billion. Their 2005 wind turbine revenues were up 400% over 2002, which was their first year of activity in the wind energy sector.

Siemens entered the wind energy business in 2004, by purchasing Bonus – a Danish firm, with a workforce of over 750 and annual sales of \$417 million.

Global cumulative installed capacity in Gigawatts (1,000 MW)



According to the Global World Energy Council, during the last decade, global wind energy capacity has doubled every 3 years – about a 30% increase annually.

This industry now employs 235,000 people worldwide.



Canadian Wind Energy Association
Powering Canada's future naturally

Toll Free: 1.800.922.6932
T: 613.234.8716 / F: 613.234.5642
www.canwea.ca



Natural Resources Canada / Ressources naturelles Canada

CanWEA acknowledges the contribution of Natural Resources Canada.

1: The Global Wind Energy Council, 17/02/2006
2: see: www.canren.gc.ca/programs/index.asp
3: Economic Impacts of the Canadian Wind Energy Industry, Insightrix Research
4: BTM Consult (2004 figures): www.sustainablebusiness.com/features/feature_printable.cfm?ID=1313
5: <http://www.investindk.com/visNyhed.asp?artikelID=15074>
6: <http://www.goodbodyie/news/mt20060213.html>