



talk about wind power

April 2009

Facts on wind power

Did you know?

Modern wind turbines, which convert wind into electricity, sit at the top of towers. The wind spins the blades of the turbine to create mechanical power. This mechanical power is used to turn a generator and produce electricity. Cables carry this electrical current to transmission lines. From there, the electricity is transmitted, connecting the power produced in one area of Alberta to customers in other areas of the province.

Today, wind has the potential to provide 20 per cent of Canada's electricity demands—that is enough power for 17 million homes.

How much wind power is there in Alberta? Alberta currently has over 500 megawatts (MW) connected to the grid. That is four per cent of installed capacity, which is enough capacity to serve over 500,000 homes. Currently, Alberta is one of the leading provinces in the development of wind power. There is also more than 11,000 MW of wind generation projects that have applied for connection to the transmission system.

What makes wind power different from other sources of electricity?

Unlike conventional generation (from sources like coal, natural gas or hydro), wind can stop or start blowing without notice.

Why is there so much talk about “managing” wind power?

The amount of power being supplied to the electric system must be balanced with the demand across the province at all times.

Wind can change quickly; there is a risk of wind power causing an imbalance of the electricity system, which could possibly interrupt service.

When wind suddenly stops, conventional generation must be immediately dispatched. When the wind suddenly starts, power must be exchanged with other provinces to offset the imbalance.

Is there a “cap” on wind power?

In April 2006, the Alberta Electric System Operator (AESO) introduced a 900 MW threshold. This “cap” was a short-term and temporary way to ensure system reliability until work could be done with electricity producers on ways to accommodate more wind.

The “cap” has been removed. The AESO is currently setting up a framework to allow more wind to be added to Alberta's power supply. The AESO is responsible for making sure Alberta's reliable grid operation will be maintained.

Where can I find more information?

The AESO is a not-for-profit company that leads the safe, reliable and economic planning and operation of Alberta's interconnected power system. Visit www.aeso.ca or call 1-888-588-AESO (2376) for additional information.

The Canadian Wind Energy Association (CanWEA) represents more than 280 companies involved in Canada's wind energy industry, including wind turbine and component manufacturers, wind energy project developers and service providers to the wind energy industry. Visit www.canwea.ca or call 1-800-922-6932 for additional information.

The development of renewable energy, such as wind power, is supported by the Provincial Energy Strategy. Visit www.energy.alberta.ca or call 780-427-0265 for more information.

www.energy.alberta.ca

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