



# talk about wind power

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## **How is wind used to make electricity?**

Modern wind turbines 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 sent 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 more than 800 megawatts (MW) connected to the grid. That is enough capacity to serve over 970,000 homes when the wind is blowing and the wind units generate at the rated capacity.

However, due to wind blowing intermittently, the electricity generation from wind power varies over time. But even when considering the large variations in the wind power generation, Alberta's wind generation is enough to provide for the electricity that over 310,000 homes use in a year.

Alberta has the highest percentage of total installed wind generation capacity of any province.

There are more than 40 wind projects proposed for future development in Alberta.

To learn more about the transmission projects underway in Alberta, visit the Alberta Electric System Operator (AESO) at [www.aeso.ca](http://www.aeso.ca).

## **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, some non-wind generation must be turned off and/or power must be exchanged with other provinces to offset the imbalance.

## **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](http://www.aeso.ca) for additional information.

The Canadian Wind Energy Association (CanWEA) represents more than 280 companies involved in Canada's wind energy industry. Visit [www.canwea.ca](http://www.canwea.ca) for additional information.

The development of renewable energy, such as wind power, is supported by the Provincial Energy Strategy. Visit [www.energy.alberta.ca](http://www.energy.alberta.ca) for more information.

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