

WIND FACTS



AFFORDABLE POWER

Wind energy is generating clean electricity and creating new career paths and economic development opportunities in communities across the country. Wind energy has enjoyed growing success in many countries for several decades and it is now being recognized as a mainstream contributor to the power system here in Canada. As such, it is natural for people to continue to ask questions. As a responsible industry, we are committed to ensuring Canadians consistently have the most up-to-date factual information on wind energy.



Wind Energy: A Reliable and Affordable Source of Power

Wind energy drives jobs and significant local benefits at prices that are cost-competitive with all other new sources of electricity generation available to us today.

Any new source of electricity generation is going to cost more than the current generating plants, built and paid for decades ago, that now supply most of Canada's electricity. Among today's options, wind energy stacks up well. Wind is extremely competitive with new installations of coal, hydro, and nuclear power, when the cost of health and environmental impacts are considered.^{1,2}

The price we pay for wind today, though, is only one part of its value.

Wind turbines do not use fossil fuels for producing electricity; this means that once a wind farm is built, the price of the electricity it produces is set and remains at that level for the entire life of the wind farm. In a time of increasing price volatility with traditional sources of energy, the price stability of wind energy

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provides important protection for consumers. It is unlikely, for example, that natural gas will remain at today's low prices over the long term. Natural gas prices vary over time with changes in supply and demand – just a few years ago electricity from natural gas-fired projects was more expensive than electricity from wind.

Because wind requires no fuel, produces very little waste and consumes barely any water during operation, it also provides a hedge against the risk and uncertain costs of complying with future greenhouse gas emission restrictions and other environmental regulations.

The cost to build wind energy continues to decline while significant efficiency gains are being achieved in modern

technology and siting. Wind projects also have very short construction periods and can be deployed quickly with significant positive impacts delivered to local communities. Wind energy developers absorb almost all of the upfront costs in developing their projects, which means no front-end or long-term risks to taxpayers and ratepayers.

Unlike large nuclear or natural gas plants, wind energy projects can be scaled to meet changing economic and environmental circumstances. Modern electricity systems around the world include more wind energy to reduce carbon emissions, improve grid reliability, and sustain predictable and stable electricity prices.

WHAT DO THE EXPERTS SAY?

There is an urgent need to invest in new electricity generation and infrastructure after decades of underinvestment. According to the Conference Board of Canada, \$347 billion in investment in Canada's electricity system is required between now and 2030 – and all of these costs will be passed on to consumers.

According to Power Advisory LLC, wind energy generation accounted for only 5 per cent of the total increase in the electricity bill of Ontario consumers between 2009 and 2012.⁴

A recent analysis by GL Garrad-Hassan of wind sites in British Columbia also found that turbine costs are down roughly 20 per cent over the past few years while productivity has increased almost 30 per cent thanks to technological advances.⁵

Interested in learning more?

The *WindFacts* website contains facts and resources that address a number of areas of key interest to Canadians: how wind works, health, community, affordability and environment and wildlife. By logging in through top social media programs, visitors can submit questions about wind energy.

Sources:

1. Mining coal, mounting costs: The life cycle consequences of coal. Centre for Health and The Global Environment, Harvard Medical School, January 2011
2. Behind the switch: pricing Ontario electricity options, The Pembina Institute, July 2011
3. Shedding Light on the Economic Impact of Investing in Electricity Infrastructure, The Conference Board of Canada, February 2012
4. Customer Bill Impacts of Generation Sources in Ontario, Power Advisory LLP, February 2013. <http://canwea.ca/pdf/Customer-BillImpacts-of-Generation-Sources-in-Ontario.pdf>
5. Assessment of the estimated costs of wind energy in British Columbia, GL Garrad Hassan Canada, Inc., May 2012. http://canwea.ca/pdf/Assessment_Est-Cost-of-Wind-Energy_BC.pdf



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