

WIND FACTS

PRICING

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



Wind Energy: A Reliable and Affordable Source of Power

Wind is an affordable source of new energy supply that protects against unpredictable fuel and carbon costs.

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 proposition.

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 of traditional sources of energy, the price stability from wind farms

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provides important protection for consumers. There is no guarantee, 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.

Jurisdictions in Canada and around the world have developed strategies for capturing the value that wind energy brings to a power system. Feed-in tariffs (FIT), used successfully in countries like Germany, Spain, and France, are a well-established way of creating a stable market for renewable energy investment by providing predictable revenue to wind producers and increasing their access to financing. Ontario's FIT program is the first of its kind in North America, and is helping attract billions of dollars in new investment to the province.



WHAT DO THE EXPERTS SAY?

In 2010, the Ontario Power Authority paid electricity resource costs of \$317 million for conservation programs, and \$269 million for renewables. That is a lot of money – but you must realize that it is recovered over a total Ontario consumption in 2010 of 142 terawatt hours (that's 142,000,000,000 kWh), which amounts to 0.4 cents per kWh (split roughly equally between conservation and renewable subsidies). So the cost of conservation and all the renewable subsidies in 2010 amounted to 0.4 cents of the 13 cents we paid for a kWh in our homes.³

"Once the investment is made, you have a secure price for that power over many, many years. So we're looking for certainty in the electricity supply. This is one way to take out some of the volatility in the marketplace."

Nova Scotia Premier Darrell Dexter, March 2010

The California Energy Commission calculates that a new gas-fired combined cycle power plant has a levelized cost of operation of \$115 per MWh.⁴ Add \$20/MWh to cover the estimated cost of environmental and health damages⁵ and the total is \$135/MWh – exactly the same as Ontario's feed-in tariff rate for onshore, non-community based wind energy.

Interested in learning more?

The Oil Drum, an energy information website, analyzes the cost of wind, the price of wind, the value of wind (www.theoil Drum.com/node/5354). Lazard's Levelized Cost of Energy Analysis (www.blog.cleanenergy.org/files/2009/04/lazard2009_levelizedcostofenergy.pdf) and the World Economic Forum's report on Green Investing 2011 (www.weforum.org/reports/green-investing-2011) compare the cost of some generating technologies.

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. The True Cost of Renewable Energy and Conservation, Environmental Commissioner of Ontario, March 2011. <http://www.eco.on.ca/blog/2011/03/22/the-true-cost-of-renewable-energy-and-conservation/>
4. Comparative Costs of California Central Station Electricity Generation. (California Energy Commission, January 2010). Table 4, page 3
5. Cost Benefit Analysis: Replacing Ontario's Coal-Fired Electricity Generation. (DSS Management Consultants, RWDI Air Inc; April 2005), page ii.



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