

Coal versus wind power: Which is safer?

May 22, 2012 - 4:11am BY GIDEON FORMAN



A wind turbine off Prospect Road in Halifax. (INGRID BULMER / Staff / File)

There's been a good deal of debate in Nova Scotia lately about using wind mills to create electricity.

On one side is the anti-wind contingent. They say the turbines are noisy and unattractive and may have health and environmental effects.

On the other side are health professionals who for years have been advocating the closure of coal-fired electricity plants. They point out these generators are a huge source of carbon dioxide and air pollution and that renewable energy sources — including wind — are helping Nova Scotia reduce its coal dependence.

But in the midst of this ruckus debate, there's an often-missed and very important distinction to be made: Coal plants are *inherently* harmful while wind turbines are not.

When you burn fossil fuel, you produce toxic byproducts. The plants release lead and mercury (brain poisons), dioxin (an endocrine disruptor), chromium and arsenic (carcinogens), and sulphur dioxide and

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nitrogen oxide (which cause acid rain). The facilities are also Nova Scotia's largest source of greenhouse gas emissions.

In short, coal-fired plants always create poisons. There is simply no getting around this. Hence the danger in fossil fuel combustion is intrinsic — the technology cannot be made safe.

The situation with wind power is importantly different. Wind operations do not produce smog or acid rain. They do not contribute to cancer. They do not contribute to brain damage. They do not contribute to climate change.

They do need to be properly sited and not every location is appropriate. For example, they need to be set back from homes to reduce noise disturbance and have to be kept away from sensitive wildlife areas. But once these conditions are met, wind power is essentially benign.

As Ontario's chief medical officer of health — the province's top physician — has noted, "The sound level from wind turbines at common residential setbacks is not sufficient to cause hearing impairment or other direct adverse health effects." And with respect to birds, the American Audubon Society is on record as saying: "Audubon strongly supports properly sited wind power as a clean alternative energy source that reduces the threat of global warming."

Wind mills, unlike coal plants, do not cause the terrible consequences of air pollution. A few years back, the Canadian Medical Association released a landmark report quantifying, province-by-province, the costs of smog, both financial and human. It estimated that in Nova Scotia in 2008, poor air quality resulted in over 60 deaths, some 20,000 visits to a doctor's office, and more than 450,000 minor illnesses. (The latter is an extraordinary statistic, given that the province's entire population is only about 945,000. Is there any family that smog hasn't sickened at some point?) The economic damages — including loss of life and health care costs — are very significant as well, pegged at about \$200 million annually.

Of course, coal isn't the only contributor to bad air, but it's a major one — and the longer Nova Scotia burns it, the greater the expense in terms of dollars and human suffering.

As Nova Scotians know only too well, the problems with coal don't start when it's burned. The harm is present throughout the production process, beginning with mining. A recent article in *Scientific American*, "The Human Cost of Energy," says that in developed nations, coal is the "most hazardous" form of power generation: about 60 times more people suffer accidental death producing coal versus onshore wind.

To its credit, the province has reduced its use of this fossil fuel, but it needs to go further. In fact, by 2020, it should close its

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coal facilities entirely. Health organizations across the country — including the Asthma Society of Canada and the Canadian Association of Physicians for the Environment — say going coal-free is a triple winner: It saves lives, prevents thousands of respiratory illnesses, and reduces health care costs by millions of dollars.

What is Nova Scotia waiting for?

Gideon Forman is executive director of the Canadian Association of Physicians for the Environment. (www.cape.ca (<http://www.cape.ca>)).

[About the Author»](#)

By GIDEON FORMAN

Comments(5)

by **shawnino** | May 22, 2012 - 7:05am

Who cares. The real question: which is CHEAPER?

With power rates spiralling out of control, all this tree-hugging hopey-changeey stuff is a luxury we cannot afford.

Will we switch to wind power someday? Maybe. But let some greater fools pump their money into research and development of alternate fuel. We need energy at the cheapest rates possible to try to stop our economy from shrinking. If that means fossil fuels, well that's unfortunate, but that's the way it goes.

The author is Executive Director for a group of physicians. Must be a lot easier to tell people we need to pay more for energy when you're earning a doctor's salary!

by **mact** | May 22, 2012 - 7:29am

"Coal plants are inherently

"Coal plants are inherently harmful while wind turbines are not".

Not 100% accurate. The metal in wind turbines has to be smelted somewhere. The steel might not be smelted and moulded here, in our back yard, but it is done somewhere on the planet. They contain lubricants that can leak from 150 ft in the air. They contain synthetics that have to come from somewhere. The blades also have been known to fly off and land a considerable distance from the windmill.

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They are not a continuous source of power and it makes very little difference what we do here when the most of our pollution comes to us from other areas on the prevailing southwesterly and the westerly winds. After two days of prevailing southwest wind the air has a blue tinge to it from the smog from the eastern seaboard. On a day when the wind in Northeast to Northwest, the air is clear and fresh. It's strange that there is very little outcry in NS about this.

by **thparkth** | May 22, 2012 - 7:31am

Disingenuous comparison

Everyone knows that coal is dirty, unhealthy, and polluting. Why compare wind power to that? Why not to oil, natural gas, or even nuclear?

As well as being very much safer to live next to than coal, and being a very much better neighbour than a wind farm as well, these sources of electricity produce power that is there when it is needed (as opposed to only when the wind blows, but not when it blows too hard), approach 100% of their rated power capacity, as opposed to wind farms which generate less than 30% of their rated capacity on average, and do not require economy-crippling subsidies from consumers to be viable.

Furthermore there is even some serious debate about whether wind farms even succeed in reducing CO2 emissions. As well as consuming significant amounts of electricity themselves, their on-again, off-again supply characteristics require constant adjustments to the power output of other (fossil fuel) generating plants. These plants are at their most inefficient from a CO2 perspective when spinning up or down.

Personally, I would very cheerfully live next door to a nuclear power station in Nova Scotia.

by **pitstop** | May 22, 2012 - 7:41am

Gideon Forman has totally ignored USA emissions

Ironic, watching China buy coal mines up in B.C. like a thirsty dog lapping water. The USA has every intention of burning massive coal amounts for a good long time using new scrubber technology. Guess where there reduced coal emissions drop once passing the New England states? The same place their acid rain use to drop, directly on us. The rest of Canada has access to CHEAP hydro power, gas, some nuclear, etc so don't need to burn what we have in abundance, coal. Buying into expensive windmills and NFLD hydro power is ridiculous when cheap, Quebec hydro power is sitting at the border. Windmills have their place but here, the only reason they are being built is the tax credits and the present NDP/ Emera lovefest. Drove through the California foothills and the huge windfarms there, those rotors hardly ever stop. Impressive to behold but NS isn't high up like California windfarms. At 1750 Ft (hightest point), we're practically flat!! Will the USA coal scrubber technology help the Cape Breton economy and give us reasonable rates. As long as Emera is allowed to fleerce us to invest ANYWHERE BUT HERE, we will never know!

by **fundyreader** | May 22, 2012 - 7:35am

fundyreader

It's all about the money and to devil with our kids. NSP. is going to charge what they want regardless of the cost of energy production. Coal will just give them a wider margin.

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