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There's a Hole in the Bucket

By Henry Binder

Wind power in Alberta has been promoted by the federal government, industry, and environmental groups as green energy on the basis that it helps reduce greenhouse gas (GHG) emissions. This view is largely fiction. The primary benefit of wind power is that it adds another source of power to the grid to facilitate energy consumption. However, as with other large-scale energy projects like power dams, wind power may come at a high cost to the environment and landscape. It is important that these costs not be ignored for the sake of illusory climate change benefits.

Displaced Gas Is Used Elsewhere

Wind power developers would have us believe that GHG emissions are reduced when their turbines are running and displacing use of a fossil fuel like natural gas. This is not true. The so-called displaced gas will be used elsewhere in the economy because producers, having incurred drilling costs, will sell all they can at almost any price. (In economics, the displacement is described as causing a fall in demand in a market characterized by highly inelastic supply.)

For those who don't like jargon, not only are the potential fuel savings from wind power just a few drops in the bucket, there's a hole in the bucket. So if the benefit of reduced GHG emissions derives from displaced fuel being left unused, wind energy may be of no help. Moreover, demand is growing, and in Alberta we plan to get the gas out as fast as possible and we won't stop until we take it "all."

An effective reduction in GHG emissions also requires leaving a substantial amount of oil unexploited. With demand for oil growing, the development of renewables, all of which are costly in energy, will not be much help.

Appearance or The Real Thing

So although renewables are symbols of progress that give hope because they mimic some of what would happen in an efficiently functioning economy, most don't address global warming. What is needed are the appropriate taxes, and supportive regulations in some cases, to ensure both effective economy-wide substitution away from fossil fuels and disincentives to further exploitation.

Yes, I'm talking about some form of the dreaded carbon tax, to make the price of fossil fuels reflect (as economists tell us efficiency requires) all their costs, including damage from climate change. Substitution will take various forms, including development of alternative fuels, switching to smaller and more energy efficient housing and cars, and improvements in community planning and public transportation.

Time spent by environmental groups supporting the cause of wind energy development is time wasted. This cause is more suited to the numerous organizations promoting business and interested in lessening the plight of consumers at the expense of the environment. There is enough appearance of positive environmental action in renewable projects to ensure government incentive programs until such projects become competitive. Moreover, the fossil fuel industry has learned to support such projects, since the appearance of progress reduces pressure to implement taxes, and industry members can benefit from investment in renewables by getting subsidies and looking like responsible corporate citizens.

Environmental groups who promote wind energy development should realize that their efforts are largely misguided and can be damaging. The real solution is implementation of the necessary taxes, in spite of





the inertia of the powerful fossil fuel industry, perceived high energy prices and complete lack of political will.

It would be productive, in this challenging context, for environmental groups to focus on tackling this difficult issue, rather than taking up the easy task of joining developers and encouraging unnecessary damage to biodiversity by emphasizing the benefits of industrial development of natural landscapes. This suggested change in approach may sound like only nuance, but it is highly significant for public perceptions and to decisions about where wind developments are permitted.

Timely implementation of an appropriate tax structure will help reallocate resources in an orderly way. Far from being negative for the economy, the necessary reallocation will provide protection against the inevitable future supply and price shocks experienced by economies remaining more heavily dependent on fossil fuels. Canada will not be immune, as we have no national energy policy. Our low-cost fossil fuels are being exported as fast as we can deplete them, without regard for security of future supply.

The impact of current incentive programs for wind installations is typically only a reduction in the intensity of emissions (tons of carbon per megawatt hour), not an absolute reduction. There are exceptions, such as where no other economic use is found for the displaced fuel.

More GHG Emissions

Wind energy in Alberta creates additional problems. Studies by the Alberta Electric System Operator (AESO) indicate that safe and reliable operation of its grid currently requires a 900-megawatt threshold for wind power. Other than curtailment of wind resources, the primary potential for mitigating the adverse effects of wind power's intermittency is increasing regulating reserves: that is, more off-line GHG emission producing generation. Such mitigation means that wind power requires emissions, making the Canadian government's plans to provide carbon credits to this industry more plainly ironic.

This direct problem may not arise to the same extent in other jurisdictions like Manitoba, where hydro power, provided it can be coupled with sufficient water storage, is displaced by wind energy. Natural Resources Canada (NRCan) has not taken such efficiency considerations into account in its approval process for subsidies.

Protection Justified

The above observations suggest the importance of not being lulled into readily accepting sacrifices of wildlife, natural native areas, and/or valuable viewscapes for the presumed climate change benefits of wind installations. Moreover, even if all the benefits touted by developers were true, feasible locations on large tracts of cultivated lands or otherwise degraded lands should be exploited first. Even if it were raised in the future, AESO's wind power threshold lends support to this approach. So it clearly makes sense to vigorously oppose industry's proposed use of sites where external environmental and/or viewscapes costs are high. Determining the best locations requires taking all social costs into account.

Green Energy Myth

A wind energy installation is not properly referred to as a "farm" since it is a large-scale industrial power development and does not resemble a farm in any respect, other than being located in the country. Wind energy is not green in the true sense of being environmentally friendly. As we have seen, it doesn't necessarily achieve reductions in GHG emissions because displaced fuel and/or increasing regulating reserves produce GHG emissions. As well, where wind developments do damage to environmentally sensitive areas, they don't meet the test of being green. The Pembina Institute describes the latter circumstances as cases of environmental burden shifting.





Toward Solutions

The need to abandon fake solutions for climate change and get to the heart of the matter is increasingly urgent. Since the world has perhaps only 10 to 20 years to act in order to avoid irreversible consequences, there is no more time for deception. Many European countries have recognized this and have taken the proper course of developing renewables and using taxes aggressively to encourage substitution away from fossil fuels.

Regrettably, the countries that do the least to solve the problem are able to benefit by consuming the fossil fuel supplies made available by more progressive countries and thwart their efforts as well. It pays, at least in the short run, to keep our heads in the sand and let others worry about the climate.

Alberta appears especially reluctant to take progressive action. Since we are not soon likely to discourage fossil fuel production, we could start doing our part by very aggressively pursuing carbon capture and sequestration, especially in thermal-based power generation, where it can most readily be done. Channeling resources here would put us on the map as a jurisdiction directly achieving more than just a phantom reduction in emissions. Not only that, but we'd get more oil out of it to boot.

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