

Received Via Email

Hi Laura,

I have read the paper entitled "Market and Operational Framework for Wind Integration in Alberta".

I have been following the developments of "renewable energy" for some time, and wish to make the following comments.

If you believe in "free markets", then you cannot impose the kind of limits that are inherent in the report. In my opinion, the fundamental flaw with the entire approach to wind power in Alberta has been the basic way in which people are trying to utilize it, i.e. direct grid interconnection. I think that is a mistake fundamentally for a number of reasons and at a number of different levels.

Wind energy increases very sharply with wind speed. Its a basic mistake not to harvest as much energy as you can because limiting the harvesting of wind energy on account of control systems problems is really not much of a solution to our looming energy shortages and green house gas emission problems. **We simply need as much clean energy as we can get and utilize.**

One of the real shortcomings of current basic business strategies with wind generation systems has been to idea of direct grid connection.

I think that is a very basic flaw. In my opinion, it makes a lot more sense to use the maximum available wind energy at a site to pump water for "energy storage" for use later in a "hydro generation" scheme, or even an air compressor scheme for later use in an air turbine for generation of electric power. Unlike dams that are large because they are storing energy for long periods of time, the time frame required here is relatively short, perhaps a few days to a week or so. That dramatically reduces the environmental impact of hydro generation systems that are still capable of very large power production, even over shorter intervals between periods of low wind conditions.

But the industry has missed the boat in terms of optimizing wind mills as water pumps that are not always running, but are capable of very high power levels under strong wind conditions.

In control systems theory, a "storage device" has the impact of "filtering" fluctuating signals, in this case power output caused by direct coupling into the wind. That "storage device" in my opinion, is a small but powerful hydro plant that produces power, and is capable of operating "off line" in a water pumping mode for maximum wind power conversion.

And that brings me to the second point, which is related to ideas about free markets. The cornerstone of a functioning market is the "contract" which is a solemn legal obligation to provide a service at an agreed upon fee. It is fundamentally unfair that wind generators face no penalty for not delivering power when that power is contracted for delivery, in my opinion. If windmill operators contracted to deliver wind power, they should be obliged to do so, under penalty terms if necessary. To do otherwise, is to unfairly punish the other market participants.

There exists another fundamental flaw in the Alberta Power Model more generally and that of course is related to the "transmission" and "distribution" side of the "regulated" system. The current situation with power transmission between customers and suppliers is not "fair and reasonable" to use a regulatory term. If a windmill generator sells power to a distant customer, that customer should have to bear the carrying charges for that energy. To make a direct comparison, the current Alberta Power Policy is rather like having Air Canada fly freight anywhere in Canada at a fixed rate, whether that is across town or across the country.

Let me go further and suggest that this ENTIRE POLICY FRAMEWORK may even be illegal. Its a sophisticated form of "cross subsidization" and the celebrated "Prince George Gas Case" has much to say in our regulatory laws about such practices.

Its also a dysfunctional arrangement in practice. In those regions of the Province where infrastructure is limited, a local "distributed generator" can supply a very valuable service at a competitive price, but that price must be free to float up to its "free market levels" that are set in part by local conditions. Yet in Alberta, the entire regulatory framework of a "market" rests upon a false premise, that of a "commodity" whose value is independent of location. What that does is discourage local distributed generators from locating where they are most in demand, and it provides the "transmission operator" with an unfair advantage. In fact, it calls upon the "distributed generator" to pay the transmission operator a fee for not performing any service at all, particularly when a local distributed generator utilizes the power he produces in the immediate vicinity of his own location, as is often the case with co-generation plants.

The Alberta market model ONLY works, in the fictional world where transmission lines have zero resistance losses and infinite transmission capacities, and where delivery of energy does not consume any energy.

In my opinion, this policy at AESO is "anti-environment" as is the Alberta Department of Energy policy that does not support new green energy production technologies.

Indeed, this policy is consistent with the "anti-environment" policies of the Alberta Department of Environment and its views related to the use of "open loop" geothermal heating and cooling systems in many Alberta communities closely located near rivers and lakes.

Finally, this "policy" does not take into account the relationship between fuels, which do have differing environmental impacts. There have been times in the Alberta market where electrical energy cost less than the cost of fuel to produce it, at least in the context of natural gas.

Let me go even further and suggest that Alberta's excessive dependence upon coal power technologies not only emit over twice as much CO2 compared to competing hydrocarbon technologies such as natural gas, but that it also discourages the upgrading of coal deposits to the much more valuable form in "methane gas".

If you are to have a free market in electrical energy in Alberta, than AESO should at least ensure that it is a well policed and well managed free marketplace where the rules are the same and fair to all participants. Windmill operators should not be relieved of their contractual obligations because of an "act of God" (i.e. no wind), and they should face the same penalties for failing to perform as does any other player. And coal generators should be faced with the consequences of emitting large quantities of green house gases and other pollutants in the course of their business operations.

By any reasonable measure, this proposed policy framework is "anti-market", and "anti-environment".

That is my opinion. You are free to publish it as part of your proceedings

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