

Plugging in the International Northeast

**MAKING ELECTRICITY MARKETS WORK ACROSS BORDERS
“THE VIEW FROM ONTARIO”**

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“MAKING ELECTRICITY MARKETS WORK ACROSS BORDERS: The View from Ontario”

I appreciate the opportunity to bring some views from Ontario to this conference.

And the view from Ontario this morning is one of a deep fog over a sea of red ink. We are now about three weeks into a new provincial government in Ontario, with a new Energy Minister and new advisors. It simply remains to be seen what the “new boss” will do with the file, but perhaps you’ll allow me to speculate.

I want to spend my time this morning talking about what role to expect Ontario to play in northeastern North American power markets in the next few years. But, like charity, good market design begins at home, so this morning I also want to talk a bit about where market design in Ontario is at.

No matter what the organizing principle for the electricity sector may be in any given jurisdiction – private ownership with a strong regulator, or state ownership with government-appointed boards to implement government policy – one of the great inescapable facts of life is how inextricably tied electrical policy is to political will. This is particularly true as we embark on a new path with a new government.

As universal as this truth may be, it can be argued that Ontario “wrote the book” on this phenomenon in the power sector. From its earliest days as an outcropping of the “social gospel” movement among municipal politicians, the history of electricity in Ontario is a story of direct political intervention. From nationalizing the private sector generating plants a century ago, to using the stopping and starting of construction at Darlington – Canada’s biggest building project – as a countercyclical economic lever in the 1980s, to the spectacular reversal on market principles in 2002, political intervention has been at the centre of the saga of power in Ontario. Governments of every stripe have played this game. It is the single biggest reason for tens of billions of dollars of stranded debt in Ontario. So what the new Government’s plans for its power sector are (and it owns the vast majority of it) will matter – a lot.

What do we know about the new government’s intentions so far? Statements made during the recent election suggested three main tenets: this government will not privatize any currently government-owned part of the sector; they committed to retaining the Tories’ retail rate subsidy until 2006; and they will close quote “dirty, old” endquote coal stations by 2007. If followed through on, the implications are large. But in fact, the new government has already reversed itself on arguably the most important one.

Taken in turn: retaining all currently government-owned parts of the system raises questions about the validity of the power market itself in Ontario. As you may know, the Market Design Committee came up with a complex formula for decontrol of Ontario Power Generation’s market power over 10 years down to 35% of Ontario’s electrical energy. Now, decontrol does not necessarily mean privatization via sale – for example, the massive Bruce nuclear station was leased, not sold, to private interests. And creative financial structures like income trusts can provide cash without dramatic privatization issues. Whether these are the kind of tactics the Liberals have in mind remains to be seen. Whatever happens, it is essential for an active Ontario power market that there be genuine competition, and a bunch of crown corporations with government-haloed debt-funded capital programs competing against each other would not sound

propitious for a liquid, fungible market to me. And neither would it likely sound inviting to new, private sector entrants.

Maintaining the previous government's retail rate freeze for at least another 2 years might have been politically popular but financially troubling, and exacerbating the province's financial problems should be bad policy too. And in fact, on October 30, the new Liberal government agreed the rate freeze was unsustainable in light of the province's recently revealed \$5.6B budget deficit; and they will decide by the end of this month what to replace the rate freeze with. Here's the back-story: the Tories, one year ago yesterday, following an unseasonably hot summer and relentless nuclear unavailability which spiked prices, responded by shutting down the market to the vast majority of customers and over 50 per cent of the load. Retail prices were frozen at 4.3c/kwh; since then the weighted average price of electricity in Ontario has been about 5.9c/kwh. Some of the 1.6c difference is charged to OPG's account; the rest to the government's Ontario Electricity Finance Corporation – and so far has amounted to about nine hundred million dollars in taxpayer subsidy over the past year. The Eves government's policy was bankrupt, in more ways than this. Because of this single move to kill the retail market, the Centre for the Advancement of Energy Markets, which tracks progress towards retail energy competition around the world, dropped Ontario from 11th in North America to 26th overnight. So the new Liberal government's recent reversal on this issue is a very welcome move in the right direction. And in fact, the new Energy Minister on November 3 announced some principles that will guide how they replace the rate freeze. Thankfully, they include: "The price of electricity must reflect the true cost of electricity", and, "The price will be regulated by an independent body, not by politicians". That's good news.

As for the shutting of the "dirty, old" coal plants, if this means ending the contribution from OPG's existing fossil fleet by 2007, it is not in my opinion achievable. Ontario's IMO estimates that a medium growth scenario would mean the province's existing and planned capacity, domestic and imports, maxes out in 2009 – five short years away. Further the IMO says we will need 15000MW of new or refurbished capacity over the next 15 years (today we have about 30,000 MW in total). In light of these numbers, losing the 8000MW of current coal capacity in Ontario in 3 years could be disastrous. If, on the other hand, the new government's fossil-fuel strategy means a process of beginning to replace that power with energy from private sector natural gas plant, refiring some existing coal boilers with natural gas, or turning some over to new clean coal technologies, in part at least built and operated if not owned by the private sector, then I can envisage some kind of workable plan in the offing. Just shutting the coal plants down cold turkey would be folly particularly given our history of nuclear non-performance. And Ontario will have to be careful not to tie its spot electricity prices too inextricably to the price of natural gas. It remains a mystery to me why having Ontario beholden to long-term natural gas contracts from out of province in order to manufacture electricity is somehow more consistent with energy self-sufficiency than having long term contracts for electricity itself from Manitoba or Quebec and importing the power through new interties.

But the biggest question for our neighbours in the power sector remains what the new government's intentions regarding the marketplace might be. Do they want one at all? Wholesale only? Who will contract to serve the retail load and with what restrictions on government price risk? How do out of province suppliers play? What's the role for the private sector in developing new generation and transmission?

Generally, these are not good days for those who believe that there is nothing inherent in electricity that makes it impossible to commoditize into a marketplace. Although it is seen as essential as potable water, and brings with it all the same, emotional public policy issues as a

consequence, it is still unclear as to why a market in electricity should seem fundamentally different to Ontarians than a market in food, telecom, natural gas or housing mortgages.

As the Globe and Mail's editorial board put it on October 31, "So far, Mr. McGuinty isn't talking about a return to deregulation. And yet, if he is to make good on yesterday's commitment (to lift the rate freeze), that's the logical result. The only sure way to make the hydro price reflect its cost is to let it move freely on the open market. That such a sensible outcome should even be conceivable so early in Mr. McGuinty's term is refreshing". To which I say, amen.

And the key to making markets work is the grid. Ontario is in a geographically superior position to contribute to a liquid power market in the northeast. But its contribution will be in the transportation of energy, not in generation itself. Ontario has land borders with two provinces and three states; underwater cables could connect Ontario to at least Ohio and Pennsylvania as well. Ontario inherited the flat part of the Hudson and James Bay basins, but it sits between low-cost, environmentally friendly tapped and untapped hydroelectric power in Manitoba and Quebec and a US market catchment area at least 10 times the size of Ontario's, south of the Great Lakes, and within two "wheels".

Moving the power would be a significant task. But Ontario has a very robust 500kv grid with some important but relatively few major congestion points; the Province itself now owns all the significant transmission rights of way; new technologies could boost the amount of power throughput on the current grid or, with reconductoring, superconducting, or high voltage direct current cables laid underground, the throughput on existing rights of way could be greatly increased without triggering the usual NIMBY or BANANA syndromes.

But doing so requires a couple things: first, that the Provincial government recognizes and values the strategic opportunity to transport power through Ontario to US and other northeastern markets; and that there be a stable regulatory regime in Ontario, stable enough that private investors will regain confidence in dealing inside the Province on power sector matters, without constant government intervention depending on the crisis of the moment.

This latter point is non-trivial. Once business confidence is shattered, it takes a long time to rebuild. The CEOs of energy companies such as Transalta and Enbridge and Sthe have been very clear on this point: they have said they are unwilling to consider further Ontario power investment until there is a track record of commitment to some market structure. As one company recently said, "The perception of political and regulatory risk is...a significant impediment to investment in Ontario electric generation". Here's a Toronto Star article from October 9: "Fluctuating electricity policies in Ontario have disrupted markets beyond the electricity sector and created confusion and uncertainty in much of the energy business, a senior executive of Enbridge said yesterday". Or as Standard and Poors put it recently in downgrading several Ontario utilities: they noted "a moderate increase in business risk following considerable intervention in the regulatory process in Ontario".

The new government needs to make a few more early policy choices, and then stick with them. In Ontario, the prevailing mood among potential investors in the power sector is: "We won't get fooled again".

Ironically, government intervention has been so invidious that it has led to a perverse situation whereby the only way some new private investors will consider Ontario is if there is, in fact, even more government intervention – in the form of long-term supply contracts with the government or its agent as counter-party.

If Hydro One is to stay in public hands indefinitely, does that imply that (apart from some minor existing exceptions) the high voltage grid in the province will be developed by government-haloed capital? Or will private investors be able to participate? Will they want to if the Province is playing roles in expanding both generation and transmission as well as its role as regulator? If not, will the Province be able to first see, and then seize the strategic opportunity that it faces?

In my view, Ontario's Independent Market Operator has, in the face of these political machinations, done a tremendous job taking a leadership role among our interconnected neighbours in hammering out seams issues, both operational and in terms of market rules. They have done considerable good work with other jurisdictions in establishing harmonized, enforceable reliability standards. Obviously, it is simply essential and in Ontario's interests to remain a large and vital trading partner in the northeast.

Following the August 14 blackout, there was – predictably and unfortunately --- some sentiment in the province against the interconnected system; because the so-called “cause” was exogenous to the province, some academic observers from outside the industry suggested that the inerties allowed for “synchronous failure” and therefore that Ontario should rely less on imported power. It was an argument that seemed to turn the whole *raison d'être* for the world wide web on its head – that is, insulate in smaller islands for security. Certainly, the economic impact of the blackout was severe for Ontario; 19 million hours of work were lost. But consider this: for four of the past five years – all but the year 2000 -- Ontario has been a net importer of power, for both economic and reliability reasons. Put frankly, Ontario's bacon has been saved on a regular basis by imports – with astronomical economic benefit. And this dependence on out of province supply at peak times is expected to continue even with the hoped-for restarts at Pickering and Bruce, as well as some already committed gas-fired generation coming on-stream. So thankfully, saner heads seem to have prevailed since, and the previous and current government in Ontario have expressed post-blackout interest in greater inerties with at least neighbouring provinces. Should this proceed – and again, the question of who makes this investment is a long way from certain – this is great news for the northeastern market, in terms of price, reliability and environmental impact.

This is not to say that there isn't some serious explaining to do about how the cascading in the blackout happened. As a member of the NPCC Executive Committee, I like others assumed that the possibility of such a wide-spread cascade had long been engineered out of the system. My own guess is that certain independent power producers in the mid-west, who under current market rules are not compensated for supplying reactive power to the system, did not, during a time of high system stress due to hot weather. It will be interesting to see what part voltage irregularities played, as well as bad vegetation management. But we should be vigilant if the blackout results in any policy movement towards less integrated systems, whether in terms of operations or markets.

A word or two about lessons in market design from Ontario. In my view, there was no “killer flaw” in the economic theory or operational application of our market design. Yes, it was somewhat radical in concept – everyone in the province was susceptible to volatile spot prices unless they'd hedged themselves out with a retailer. Now in terms of good market economics, that's where you want to get to, but a phase-in would have been educational. Admittedly, Ontario has not yet achieved a day-ahead or capacity market, and there are some issues with getting the pre-dispatch price projections to be better forecasts of real-time prices. And yes, we have problems with out of province suppliers bidding in, and with failed transactions -- whereby out of province generators promise but don't actually deliver. The IMO's Market Surveillance Panel

Report said, "...the major benefits will come only with enhanced cooperation among neighbouring control areas to reduce seams issues in the interjurisdictional flow of energy". That's why compatible market designs are so crucial.

And like many market designs around the world, we had some difficulty bolting our economic theory onto the real physical plant we had inherited. Very large, lumpy, non-cyclable nuclear plants sitting at the bottom of the bid stack are very unwieldy in a five minute offer and bid market. Nonetheless, none of these issues was a stopper. What was a fatal flaw in the Ontario market design introduction was, however, lack of public education. Education as to why this was happening, what problem it was trying to fix, how it worked, what the advantages would be. This happened in part because the provincial government steadfastly told the industry to "butt out" of public education, and took on the job themselves – a job which they had neither human nor financial resources to do properly.

Interestingly, public support for the market remains an issue in Alberta, a province with much better record for political stability and sticking to its guns on deregulation. Perhaps the biggest issue for the market in Alberta is simple public acceptance – people ask, "With the rates for electricity tied to increasing natural gas prices, when is this open market going to benefit me?" Here again, public education is essential for people to understand the policy merits of markets.

There has been a good deal of buzz in recent months in Ontario's power sector – especially since the August blackout – about new interties with Manitoba and Quebec. As many in this room will know, Ontario's intertie with Manitoba is small (about 400MW) and Ontario is not synchronously tied to Quebec. An expanded intertie with Manitoba has long been contemplated – but the last serious examination was ended in the early 1990s, not just because Ontario was in recession and negative load growth at the time, but because the cost of bringing the power across the top of Lake Superior through the Canadian Shield was simply prohibitive. New technologies might bring that cost down by perhaps 20%.

While it may seem incredible that Ontario is not synchronously connected to Quebec this late in the game, various recent attempts have ended in frustration. Over the past five years we tried very hard to complete a \$400M, 1250MW DC intertie at Ottawa. It was a project that was re-vivified by Quebec's new transmission plan after the 1998 ice storm. It floundered last year apparently because of a ruling by the regulator in Quebec which did not allow Hydro Quebec adequate return on longer-term transactions. Some analysts argue that Quebec will not be interested in pursuing this tie until it has substantially more capacity, because of its growth in native load. The new Hydro Quebec strategic plan released in September promises investments of \$3.5B per year until 2020, adding 10Twh to its annual generating capability by 2008, and "completing its program for reinforcing the transmission system in order to ensure greater security of supply". This certainly forecasts a return to making electricity the cornerstone of Quebec economic policy – and synchronous connections and new interties are going to be an essential part of achieving that goal. That's good news for the northeast.

Perhaps in conclusion you'll allow me a few predictions about what's to come in the months and years ahead in Ontario.

First, while I expect and hope the wholesale market will remain, managed by the IMO, I think it very unlikely we will see a direct retail electricity market in Ontario again any time soon. Retail electricity prices will be regulated by the Ontario Energy Board. Retailers may re-enter the scene in the mid-term.

Second, this means that someone will need to be buying power on behalf of retail customers. This could be the local LDCs, but there are still far too many of them – about 90 across the province, and mostly very small. I wouldn't like to see municipal credit at risk because of power market volatility. More likely it will be either the IMO itself or the provincial Ontario Electricity Finance Corporation who will be the buyer, at least to offer default supply.

And, third, I think it likely whoever it is will need to offer long-term, assured contracts for power if the private sector is to show any interest in returning to Ontario's power sector. This is very consistent with the long-term NUG contracts that the Liberals put in place in the late 1980s, the last time they were in power. The problem will be mitigating the Province's price risk in structuring those contracts – the 1980s NUG contracts contributed several billion dollars to the stranded debt.

If this pans out, and we have some government agency purchasing power on behalf of some or all retail customers in the province, it will mean Ontario's experiment with an open market in electricity will, in some important respects, have come full circle in the space of about fifteen years.

I can't think of any better advice to offer the new Minister of Energy than the conclusion of a recent report by the Conference Board of Canada:

“Overall, Ontario needs affordable and reliable electricity, priced at true cost, that supports the province's competitiveness, as well as its economic, environmental, and social well-being. This can be achieved only with a comprehensive strategy that is clear to all stakeholders and consistent in its course of action.”

Ontario's new government should pick a course, stick to it, put well-funded and independent regulators in place to oversee it, and then get out of the way. If they do, Ontario can return to a leadership role in the northeastern power market. Thank you.