

**OUTLINE FOR REMARKS TO THE  
VAN HORNE INSTITUTE CONFERENCE  
ON RESTRUCTURED ELECTRICITY MARKETS**

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**May 29, 2014**  
**Calgary, Alberta**

**A. INTRODUCTION**

- Theme: Observations on the interface between competition and regulation in wholesale electricity markets. More specifically, I will discuss the spectrum between regulation and competition; the institutions involved in operating and regulating an electricity market; the interface between efficiency and non-efficiency objectives, including reliability; inter-jurisdictional trade; and the use of procurement contracts to manage supply and demand.
- Caveats: Views are my own – I do not speak for the Market Surveillance Panel, the Ontario Energy Board or the Independent Electricity System Operator. Ontario is a unique “market” – not suggesting that all comments will reflect or generalize to Alberta or other differently designed markets.

**B. THE REGULATION / COMPETITION SPECTRUM**

- Degree of regulation versus deregulation is an important institutional design choice:
  - (1) At one end of the spectrum are atomistic “perfectly competitive” markets – not that common in practice.
  - (2) At the other end of the spectrum are natural monopolies that operate as state enterprises or subject to rate (and other) regulatory oversight – also not very common in the modern economy after extensive deregulation,

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privatization, trade liberalization and technological change over the past few decades.

- The competition end of the spectrum for electricity is truncated:
  - (1) State enterprises and rate-regulated monopolies are possible at all stages of the supply chain, but have been shown not to be the only viable model – particularly in the generation / wholesale level of trade.<sup>1</sup>
  - (2) The physics and the network structure of electrical energy preclude the use of completely deregulated competitive markets in which buyers and sellers interact entirely through private transactions and contracts.
  - (3) As a result, wholesale electricity markets will always have a significant regulatory component. The regulations effectively set the boundaries within, and create the structure in which, market participants are able to compete as sellers and buyers.
  
- We all know the general conceptual case for deregulation is very strong. The benefits of relying on markets and competition include:
  - (1) productive efficiency gains;
  - (2) reduction of allocative inefficiencies and market power;
  - (3) incentivizing differentiation and innovation that can lead to greater product choice and dynamic efficiency gains;
  - (4) decreasing the planning errors, inflexibility and costs associated with regulation; and

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<sup>1</sup> And to a certain degree at retail, but these remarks will focus only on wholesale markets.

- (5) avoiding regulatory capture and/or regulatory hold-ups.
- There are three main reasons for using regulation as either a complement to, or a substitute, for competition:
    - (1) “Technical” or “Administrative” Regulation — in general, this tends to address operational or other practical issues where standardization, coordination or predictability are needed to make things work smoothly. Such regulation is common in network industries and pervasive in electricity markets because of their complexity (e.g. dispatch procedures).
    - (2) “Economic” or “Efficiency-oriented” Regulation — this often deals with matters that are competitively significant such as market power that is not subject to effective discipline through competitive forces, free-rider issues, other market failures or broader efficiency issues. Even where electricity is supplied through markets rather than by a rate-regulated utility, there may be numerous components of the regulatory regime that address these issues (e.g. offer price caps, the requirement to offer all available capacity, etc.).
    - (3) “Non-Efficiency Objectives” or “Policy Regulation” — there are often numerous non-efficiency objectives embedded in a regulatory regime, some of which may be more important than the efficiency objectives. For example, the purpose clauses in Ontario’s *Electricity Act* and Alberta’s *Electric Utilities Act* allude to market power and efficiency alongside numerous other objectives. A notable Ontario example is the Government’s decision several years ago to eliminate coal-fired generation by 2014 for environmental reasons. This was done in large part by giving shareholder directives to Ontario Power Generation (OPG) including in respect of CO<sub>2</sub> emissions caps. The most prominent non-

efficiency goal in electricity markets is reliability, which I will discuss a bit more later.

- The fact that wholesale electricity markets are characterized by significant Administrative, Economic and Policy Regulation means that we need to temper somewhat our expectations about the benefits that can be realized from deregulation and competition in this sector. For example:
  - (1) Depending on the regulatory design, significant portions of the theoretically available efficiency gains may not be realized.
  - (2) Whether you think of them as costs of deregulation or of partial regulation, the institutional structures and other costs of establishing and operating electricity markets are non-trivial.
  - (3) Given the long-term nature of electricity investments, the technical complexity of markets and the stakeholder and political dynamics associated with this sector, regulatory capture or hold-up problems may still occur. Regulators and Market Monitors need to be vigilant to deal with those issues as markets operate and evolve.
  - (4) Since electrons are a commodity, there is limited scope for differentiation or innovation in the supply of electricity itself – wholesale markets basically are designed to match the supply and demand for Megawatts of power. (However, if not restricted by regulation, there can be some scope for innovation through the contracts that are used to buy, sell or hedge risk relating to electricity. And there is certainly ongoing innovation relating to fuel sources and production technologies, as well as distributed generation, demand response and storage mechanisms.)

- Thus far I have referred to a “market” as a single generic construct. We typically think of it as a real-time, physical spot market. However, there are time horizon and other characteristics that may result in multiple, interconnected markets.
  - (1) Examples include location-based markets; day-ahead markets; operating reserve markets; futures markets; transmission rights markets; and capacity markets. Some are physical; others are financial. And there may be a range of private bilateral contracting outside these organized markets.
  - (2) From a market design perspective, each of these potential markets involves a separate assessment of whether it is useful to have the market at all, the degree of regulation versus competition within the market, and the manner in which it will interface with other interrelated markets.
- The mix of regulation and competition in a set of electricity markets will also have important implications for market participants.
  - (1) Markets which skew toward the regulatory end of the spectrum will naturally encourage participants to invest more heavily in “regulatory affairs” and “compliance” activities.
  - (2) Markets which skew toward deregulation call for an organizational culture that places much heavier emphasis on productivity, innovation and competition.

### **C. IT TAKES MANY REGULATORS TO RUN AN ELECTRICITY MARKET**

- You may assume that, when I refer to a “Regulator”, I mean the tribunal that has ultimate oversight over the marketplace including the final say on market rules and on enforcement proceedings – *e.g.* the OEB, the AUC or FERC “Sector Regulators” for electricity. They have a range of licensing, regulatory and

enforcement powers which provide oversight for what I have called the “partial” regulation component of an electricity market. These functions are very important, but I think fairly well understood, and hence I will not spend any more time on them in these remarks.

- However, there are three other players with crucial roles in most electricity markets: Market Monitors, System Operators and the Government itself. In a broad sense, each of these are part of an overall framework in which market competition is bounded and structured.

### **Market Monitors: The “Non-Regulators”**

- Market Monitors do not “regulate” *per se*. One way to think about Market Monitors is that they are “the Competition Bureau of electricity markets”.<sup>2</sup>
- Assuming they have independence, meaningful investigative powers and solid analytical expertise, Market Monitors play vitally important roles that tend to support deregulation and efficiency. In particular, they are uniquely positioned to identify conduct by market participants and/or the System Operator that is anti-competitive, efficiency-reducing or otherwise contrary to the public interest in an effectively functioning market.
  - (1) This is particularly clear in Alberta, where the MSA can bring market participants and/or the AESO before the AUC if they are not complying with their broad obligations under the EUA and the “FEOC Regulation” to act in a manner consistent with the “fair, efficient and openly competitive” operation of the market.

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<sup>2</sup> Indeed the Ontario Market Surveillance Panel and the Alberta Market Surveillance Administrator each have MOUs with the Bureau which seek to clarify how they will deal with their partially overlapping mandates. (See Memorandum of Understanding Between the Market Surveillance Administrator of Alberta and the Commissioner of Competition of the Competition Bureau, February 27, 2014, online: <http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/03672.html>. The Ontario MOU is not available online.)

- (2) While there is not a formal FECC counterpart in the Ontario regime, the MSP has made dozens of recommendations to the IESO to change rules, policies and practices which undermine market efficiency and/or distort competition. Many have been accepted and implemented; several others are pending; and a few have been rejected, either because the IESO disagrees with the analysis or, more commonly, because it believes that there is a non-efficiency objective that outweighs the efficiency benefits.
  - (3) One important corollary is that effective Market Monitors are not necessarily advocates for low prices or for stable prices. They regularly seek the elimination of barriers to competition or inefficiencies in the operation of the market, which indirectly can facilitate lower prices in the future. But they want market prices to accurately reflect supply and demand conditions, which at times will mean high and/or volatile prices.
- I have written about the role of Market Monitors in the Kaiser/Heggie book on *Energy Policy*<sup>3</sup> and in the upcoming edition of the *Energy Regulation Quarterly*.<sup>4</sup> So I will not dwell on them further in these remarks.

### **System Operators: “Client Service Organizations” and “Micro-Regulators”**

- System Operators are not immune from the public sector trend of characterizing those they serve as “clients” or “stakeholders”. This can be a salutary mindset to the extent that it helps to improve the quality, efficiency and effectiveness of the work they do.
- However, System Operators are also vitally important “micro-regulators” in electricity markets. There necessarily will be a vast array of market rules,

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<sup>3</sup>Gordon Kaiser and Bob Heggie, (ed.5) *Energy Law & Policy* (Carswell, 2011).

<sup>4</sup> Neil Campbell, *Gaming of Electricity Markets – The Ontario Experience*, Energy Regulation Quarterly, Volume 3, Summer 2015.

manuals, policies, guidelines and other programs and activities needed to make both the physical system and the market operate. Many of these are relatively technical / administrative. However, others will have major effects on what market participants can or cannot do, and what they are incentivized or disincentivized to do. For example, the IESO in Ontario has used cost guarantee programs to incentivize various offer behaviours from generators and importers – usually in the name of ensuring system “reliability”. This does not eliminate competition, but it may change the offer strategies that participants use and can affect the merit order in the supply stack.

- A recent example of the potential tension between client service and regulation in a rule-design context can be seen in the IESO’s current initiative to develop a “General Conduct Rule”.<sup>5</sup>
  - (1) The initial design was modelled on Alberta’s famous “FEOC” obligations. This met with strong stakeholder opposition and the IESO switched to a list of specific types of prohibited conduct (such as market manipulation, exploitation, circumvention, etc.).
  - (2) There were extensive verbal and written interactions with the association representing generators, as well as various other stakeholders, over a period of several months in which every word of the GCR was closely examined. Stakeholders quite appropriately put forward the positions and arguments reflecting their interests and their view of the public interest. Numerous changes were made which improved the quality and clarity of the GCR, underscoring the value of meaningful “stakeholdering”.

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<sup>5</sup> For a detailed inventory of the rule development process, see: <http://ieso-public.sharepoint.com/Pages/Participate/Stakeholder-Engagement/SE-112.aspx>; and <http://ieso-public.sharepoint.com/Pages/Participate/Stakeholder-Engagement/Technical-Panel/Technical-Panel.aspx>. As a matter of full disclosure I should note that I assisted the IESO with aspects of this process.



- (3) As the process went forward, including at the meetings of the Technical Panel which exists to advise the IESO Board of Directors on proposed rules, stakeholders framed the process as being about “negotiation” and working toward “consensus”, as opposed to “consultation” and consideration of “input” by the IESO. That is a natural extension of a client service culture. However if a System Operator works to a consensus standard with the parties being regulated, it is likely to end up with a rule that will under-enforce the public interest.<sup>6</sup>
- The client service ethos can also present challenges in an enforcement context.
    - (1) Market participants may be inclined to talk to client-facing staff at the System Operator about a range of matters — sometimes on a highly informal basis and without a comprehensive discussion of all relevant facts. System Operator personnel may be inclined to avoid confrontational responses or negative feedback in the interest of maintaining good client relationships.
    - (2) However, if the participant’s conduct later comes under investigation in respect of a rule breach or other concerns, one of the first lines of defense will be that the System Operator knew or ought to have known what the participant was doing and that it explicitly approved or implicitly condoned the conduct. While this may or may not rise to the level of a legal defence in particular circumstances, it can also impact on the determination of what sanctions may be appropriate in a particular case. And it can certainly undermine private sector confidence in the public institutions overseeing the market.

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<sup>6</sup> The Technical Panel voted 8:4 in favour of the amendments put forward by the IESO staff (with one abstention). A separate accompanying rule on governance issues related to enforcement of the GCR received unanimous support. The proposed amendments to the *Market Rules* will go before the IESO board in June.

- (3) A formal process for “advance rulings” in grey areas can be a very useful mechanism for preventing client service activities from undermining effective compliance and enforcement functions. Where this does not exist, it would be prudent for market participants to thoroughly document the guidance requested and received so that they can demonstrate this later if it becomes relevant.
- In summary, while I think System Operators can be both client service organizations and micro-regulators, it is important to recognize that the particular interests and concerns of specific stakeholders and the desire to maintain good working “client relationships” may sometimes conflict with — and in my view ultimately need to be subordinated to — regulatory and enforcement decision-making based on the public interest.

### **The Role of the Government: How Active Should the “Macro-Regulator” Be?**

- Since electricity is a critical component of the infrastructure for any economy and society, Governments naturally want to ensure that it is reliably available at reasonable cost.
  - (1) Electricity prices — like gasoline prices — can be a source of significant media and public concern. For large industrial and commercial users, electricity prices can also be a large enough input cost to affect competitiveness and locational decisions, with attendant local employment and investment impacts.
  - (2) Electricity infrastructure (both generation and transmission) is also prone to various media and public sensitivities including environmental impacts, First Nations’ concerns and NIMBY issues.
- The Government is ultimately the “macro-regulator” for any electricity market — regardless of whether it chooses to engage in this role in an active and detailed

way or by establishing the basic framework and leaving broad responsibility for implementation to the System Operator and the Sector Regulator (or a crown corporation if a non-market design is chosen).

- Government can responsibly take a relatively hands-off approach once it has decided to set-up an electricity market by relying on the Sector Regulator, System Operator and Market Monitor — who have relevant technical, economic and policy expertise — to oversee the conduct of market participants and the operation of the market. Under this approach, high prices and/or volatile prices are not the fault of Government and regulatory intervention can be left to the applicable institutions and processes. Many (but not all) Governments have resisted the pressure to regulate gasoline prices and electricity prices can be left to the market as well. Similarly, a Government that has put in place credible institutions and processes for dealing with infrastructure decisions can take the position that it will properly defer to such decision-making.
- One of the very important advantages of a restrained governmental approach is that it fosters a climate that facilitates long-term investments.
  - (1) As we all know, getting electricity markets to produce efficient long-term investment decisions is challenging for a variety of reasons — even where the Government has cultivated a stable macro-regulatory environment.
  - (2) In the absence of such stability, new private sector investment may require a higher ROI risk premium or may simply not be forthcoming. Governments need to remember that, in a larger context, they are competing for investment in new generation projects — not only in Canada or even North America, but increasingly on a global basis. For example, some years ago BMO arranged for Harry Chandler's predecessor as the Market Surveillance Administrator, Martin Merritt, to give a presentation to an investor audience in Toronto — the basic message was

“we run a market with stable rules and competition on the merits — and you can invest in it with confidence”.

- The option of more active involvement in the electricity sector is an equally legitimate choice for a democratically elected Government to make. As you all know, this has been the Ontario approach since former Premier Eves’ early re-intervention in the face of rising prices shortly after Ontario established its electricity market. This has led over the past decade to the development of a so-called “hybrid market”. An overall assessment of the active governmental approach taken in Ontario would be complex, since there are a variety of non-efficiency objectives that may significantly influence the decisions taken. However, I believe a few general observations can be made about how a more activist approach by the Government as macro-regulator interfaces with an electricity market.
  - (1) The first point is that willingness to intervene in one area tends to create expectations that the Government may do so to solve other perceived problems as well. This sets up a cycle where stakeholders may repeatedly attempt to lobby and/or use media pressure to encourage the Government make changes to the market. The relative importance of economic efficiency versus non-efficiency objectives can vary widely in this type of decision-making environment.
  - (2) The second point to remember is that incremental intervention through contracts, subsidies, directives or other methods for implementing specific Government policy changes may (intentionally or inadvertently) change incentives and effect competition and efficiency in the market. For example, given the policy decision to expand the use of renewable energy in Ontario, there was reluctance to allow the IESO to dispatch-off wind generators even during periods of “Surplus Baseload Generation” — with

the result that other less efficient dispatch decisions had to be used to balance supply with demand. This led to further policy adjustments in respect to exports and other generators as well as wind resources.

- (3) My third observation relates to complexity. A hybrid market contains very intricate webs of incentives and rules. Sophisticated market participants generally will be able to adapt to these, but the regulatory and compliance burdens tend to increase, and smaller players may be at a disadvantage relative to larger competitors. It is also harder for the System Operator and Market Monitor to monitor and evaluate the performance of the market and potentially inappropriate market participant conduct. In addition, the complexity can impede further market development. For example, one of the reasons that Ontario has an “Enhanced Day Ahead Commitment Process”, rather than a fully-functioning Day-Ahead Market (like some of its US neighbours), is a function of the complexity of the existing hybrid market design.
- (4) Finally, in my experience, there is usually more downside than upside for Governments in the electricity sector. They end up being held responsible for high prices, NIMBY issues and other decisions that are more likely to lose than win votes. An example is Ontario’s *Green Energy and Green Economy Act*, which promoted renewable energy sources, jobs and investment. If you read media coverage over the past five years, those messages struggled for airtime relative to a host of “negative” issues related to the cost of electricity , NIMBY concerns, *etc.*

**D. HOW TO DEAL WITH THE RELIABILITY TRUMP (AND OTHER NON-ECONOMIC OBJECTIVES)**

- Nobody wants to be responsible for the lights going out! Governments, electricity users, suppliers and traders all expect an electricity market to operate

safely and reliably. And System Operators typically have a huge core competence and organizational culture focused on the engineering / technical dimensions of operating the physical “system”. As a result, on countless issues where there is a choice between a rule or practice that would increase market efficiency and an alternative that offers greater reliability, the System Operator (and often those stakeholders who benefit from the “conservative” alternative) will assert reliability as a trump card. We experienced this on numerous efficiency-oriented recommendations made by the Market Surveillance Panel.

- Conservation is another example of a policy objective that has become politically important in the electricity sector. Regardless of whether it is manifested in regulations, programs, contracts or other mechanisms, they typically do not give primacy to economic efficiency.
- It can be difficult for non-experts to assess the seriousness of reliability concerns. But this is an important issue because very high reliability can be very costly — both in terms of the operational costs and investments required, and also the opportunity cost of foregone efficiency benefits. Similar issues arise in trying to assess the value of conservation.
- One potentially useful discipline for dealing with reliability (or conservation or other non-economic policy objectives) is to subject the issue to a rigorous cost-benefit analysis. In Ontario, the IESO commissioned CRA to provide and overview of this analytical technique as part of its stakeholding process for market rule development.<sup>7</sup> Even if the reliability or other benefits cannot be precisely quantified in financial terms, an estimate of the dollar value of the incremental costs, plus the opportunity cost of foregone efficiencies, may

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<sup>7</sup> CRA International, *Overview of Cost-Benefit Analysis and Its Applications in Public Policy Decisions*, June 2007 online: [https://www.ieso.ca/imoweb/pubs/mear/CRA\\_Overview-of-Cost-Benefit-Analysis.pdf](https://www.ieso.ca/imoweb/pubs/mear/CRA_Overview-of-Cost-Benefit-Analysis.pdf).

facilitate much more informed decision-making regarding the trade-offs being made.

**E. IT IS GOOD TO BE FRIENDLY WITH THE NEIGHBOURS**

- Trade liberalization has been an important complement to the general migration from regulation to competition in many sectors over the past few decades. It can potentially be very significant in electricity markets as well, depending on the location and capacity of physical interconnections that a market has to neighbouring jurisdictions.
- Ontario has multiple intertie connections with Quebec, Manitoba, New York and the Midwest market (“MISO”) in the US. These neighbours in turn have significant interconnections with the New England and “PJM” markets in the US.
  - (1) Collectively, imports provide an important source of actual or potential competition to domestic generators almost all the time in the Ontario market. Similarly, exports provide a notable component of price-responsive and dispatchable demand in the Ontario market.
  - (2) While there are other contributing factors as well, my own view is that transactions on the interties were one of the important reasons why there have not been major market power concerns in the Ontario market even though the government-owned generator had a very high share of domestic generation capacity when I joined the MSP in 2007.
- Traders increase competition and efficiency by arbitraging price differences, and are often very good at doing so (subject to the various structural features and constraints of each of the markets they are sourcing from and sinking to.) A particularly interesting example is the huge volume of wheeling transactions from NYISO through Ontario to MISO and eventually PJM that were occurring

in 2008, even though there was a more direct path between the NYISO and the PJM markets.

- Market monitoring in Ontario discovered the issue, but the MSP concluded that it did not raise concerns in the Ontario market.
  - The NYISO was concerned about the impact on its market and obtained an interim prohibition order of various transaction paths from FERC.
  - However, FERC's subsequent investigation basically found that the traders were simply arbitraging systemic price differentials that arose from design differences in the New York and PJM markets.<sup>8</sup>
- I realize that Alberta's import/export capacity is relatively limited. However, the lesson I take from the experience in Ontario is that there can be a range of "seams issues" that can prevent the full potential volume of trade transactions from being realized, and it is useful for System Operators and Market Monitors to pay attention to these opportunities. A couple of examples illustrate the point:
    - (1) On Phase Angle Regulators, it took years (and significant advocacy by the IESO and the MSP) to overcome a regulatory hold-up on the US side to allow equipment that addressed "loop flow" inefficiency and reliability problems to be put into service.

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<sup>8</sup> *Order Authorizing Public Disclosure of Enforcement Staff Report and Directing the Filing of an Additional Report*, 128 FERC ¶ 61,049 (2009). FERC subsequently investigated market manipulation issues involving a broader range of virtual and physical energy trading activities by Constellation Energy Commodities Group in northeastern North America. It concluded that they constituted market manipulation, and accepted a negotiated consent agreement and penalty of US\$135 million plus disgorgement of profits: see Federal Energy Regulatory Commission, *Constellation Energy Commodities Group, Inc. — Order Approving Stipulation and Consent Agreement* Docket No IN12-7-000 (9 March 2012), online: FERC <<http://www.ferc.gov/enforcement/civil-penalties/actions/138FERC61168.pdf>>.



- (2) When it became apparent that some US markets were able to operate using 15 minute rather than hourly dispatches, the MSP urged the IESO to explore the feasibility of 15 minute dispatch to allow Ontario to interface more effectively with neighbouring markets
- There are of course some historical examples of manipulation or other inappropriate behaviour by traders in electricity markets. There are several high profile FERC cases, and the Market Monitors in Ontario and Alberta have also identified issues with trader conduct on occasion. I do not think that these events come anywhere close to undermining the benefits from inter-jurisdictional trade. But, they do point to the need to have effective market monitoring and enforcement regimes.

#### **F. PROCUREMENT CONTRACTS AS AN OPTION FOR DEALING WITH THE LONG TERM**

- At the risk of oversimplifying a long history and the very difficult challenge of balancing demand and supply over the long term, I will provide a few observations about monitoring the Ontario market as the Government moved to deal with various supply and demand issues through long-term contracts.
  - (1) The procurement agency — the Ontario Power Authority (OPA) — has used a variety of types of contract designs. Some provided the contract parties with incentives that the MSP found were well aligned with market the MSP found that certain demand response and conservation contracts and programs did not appear to be economically efficient.
  - (2) Procurement processes can be structured in ways that have varying degrees of competitiveness. Procurements in Ontario were segmented in certain ways including by fuel type (*i.e.* effectively managing the supply

mix).<sup>9</sup> This can allow non-efficiency objectives to be pursued in a relatively targeted manner. For example, demand-side procurement was done separately from the various supply-side procurements. For the Feed-in-Tariff (FIT) wind and solar programs, the OPA set up-front rates based on its assessment of what might be needed to induce the estimated future levels of investment. When the scope for competition is compartmentalized or constrained by the procurement design, the maximum benefits available from competition will not be obtained, and it is important to consider whether the non-efficiency objectives outweigh this opportunity cost.

- (3) The interface between payments derived from market prices, top-up payments under the contracts, and various congestion and cost guarantee program payments is extremely complex. It has been difficult to analyze the overall incentives and efficiency implications.
- (4) Contracts with a public procurement agency may include a “change in circumstances” provision that protects the contract party against negative financial consequences of certain types of changes to the market design. These can function somewhat like MFN clauses in private contracts, in that they raise the cost of making changes to the market design that might be in the public interest. The IESO has noted this as a factor that would need to be considered in any future Ontario market development initiatives.
- (5) The contracts tended to shift significant elements of both regulatory and market uncertainty from generators and loads to the OPA and, ultimately, to electricity users. This has occurred in part through the “Global

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<sup>9</sup> See generally <http://www.powerauthority.on.ca/generation>.

Adjustment”, which a few years ago exceeded the magnitude of the “market price”. This in turn has led to debates and reforms related to how these changes are allocated to users.

- In this context, the IESO made a remarkable announcement last fall that it would begin to study the possibility of developing a “capacity market” (tailored for Ontario’s unique situation). While the process is in early stages and does not appear to have attracted a great deal of attention yet, I think it has the potential to move Ontario’s electricity sector in a materially different direction with a stronger emphasis on competition and efficiency. There are a couple of paragraphs in the Backgrounder document that I thought would provide a good conclusion for these remarks:<sup>10</sup>

“History has shown us that despite best intentions, locking in Ontario’s future decisions through centralized procurement today can result in challenges in the near term if demand and supply projections differ from forecasts. Those risks, as well the costs of inefficient allocations of resources, are currently borne and paid for by Ontario consumers. By contrast, a properly designed capacity market could provide a market-based alternative to deliver the near-term flexibility to automatically adjust to revised or unforeseen changes in demand and supply conditions.”

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“Attract new entrants — a capacity market could facilitate the entry of new, efficient resources... and enable innovative technologies such as energy storage and demand response service providers to compete alongside conventional resources”

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<sup>10</sup> See online: [http://www.ieso.ca/documents/consult/Capacity\\_Market-Backgrounder.pdf](http://www.ieso.ca/documents/consult/Capacity_Market-Backgrounder.pdf).

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“Risk sharing — by appropriately compensating existing resource providers, a capacity market that provided uniform compensation for the provision of capacity could facilitate entry of resources without long term contracts and shift a portion of the long term market-based risks away from ratepayers. This could also reduce and potentially eliminate the need for extensions or renewals of expiring long-term contracts and increase efficiency by having facilities with expiring contracts participate in the capacity market and be paid the market price for their services.”

- It will be interesting to see whether and how these market-oriented options influence the future development of Ontario’s hybrid electricity markets.