



Notes for Remarks:

Ontario Energy Network (OEN) Luncheon

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Check Against Delivery

Introduction

- Thank you for inviting me to join you today and to address this gathering of energy industry leaders.
- I am pleased to be here and carry on the tradition of having the IESO serve as the OEN's first speaker of the year.
- I have had a long history with the OEN, having served on the Board for many years and I would like to thank our Chair Grant Buchanan and President John Loucks for their leadership.
- I also want to recognize and thank our guests at the IESO table.
- Serge Imbrogno, the Deputy Minister of Energy, is here with us as are members of the IESO's Stakeholder Advisory Committee.
- Jim Hinds, a former Chair of the IESO Board of Directors, and current Hydro One Board Director, is with us today as are two members of the current Board ... our Chair Tim O'Neill, and Director Cynthia Chaplin.
- A word about our Board, given the importance of governance to our ongoing success:
- The Board has significant diversity, including six female directors out of a population of 10. Margaret Kelch and Carole Workman chair the two Committees of the Board.
- And it has a good blend of business, regulatory, government and industry experience which enables them to effectively carry out their oversight responsibilities. As examples, Tim is former Chief Economist at BMO, Margaret, former President of the Technical Standards and Safety Association and Cynthia is former Vice Chair of the OEB.

- They are also a very engaged and active Board. You will see them in attendance at our Stakeholder Advisory Committee meetings and at many of our industry events such as the EDA annual meeting in March and the OEA and APPrO conferences in the fall.

When I think about my remarks here today, here's what I'd like you to take away:

1. We have a unique moment now to speak with our policy makers and our stakeholders and to listen and inform collectively, to bring our expertise, experience and judgement to bear on some of the most important energy matters of our time. It's our time, collectively, to help get the future right.
2. I have a viewpoint on where we need to go and how together we can get there
3. You can have confidence in IESO's leadership; it's in good hands in the midst of change in the industry.

Here's how I'm going to outline my thinking with three primary areas of focus:

- a. Our future: Sector Evolution and why it's time to seize the moment
- b. Leadership and engagement: what meaningful collaboration with IESO will look like
- c. IESO's leadership: expect both continuity and renewal in the organization and in our approach

1. Our Future: Sector Evolution and why it's time to seize the moment

My Vision – what I believe the IESO should strive for:

- A continued commitment to serve customers at established robust reliability standards
- We will work with stakeholders to put in place the changes needed to improve the efficiency of the electricity market and accommodate the needs of tomorrow

- We will seek to Inform and support the development of effective policy within this sector and enable the innovation needed to respond to the changes we continue to see in the sector
- We will capitalize on technological innovation, such as Distributed Energy Resources, or DER
- We will guard against cyber security threats as they continue to grow in number and complexity
- Given our broad mandate and technical expertise, I see IESO taking a leadership role in initiating many of these conversations, finding solutions that serve the energy security, economic prosperity and environmental health of Ontarians, and driving to those outcomes

Sector Evolution

- Ontario's electricity sector continues to transform at rates of change that continue to energize and challenge us.
- Over the last decade, we have retired coal as a generation source. In doing so, we have increased the amount of renewable generation both on the transmission connected system and on the distribution system. At the wholesale level alone, wind and solar combined to meet about seven per cent of Ontario's supply needs in 2017. Gas output was down to four per cent which means our electricity system is *now 96 per cent carbon free*.
- And of course we can't talk about our carbon free supply mix without recognizing the significant contribution of nuclear, which continues to provide around 60% of our supply. Hats off to Jeff Lyash and Mike Rencheck for their leadership.
- Ontario is now in a stable supply situation, but that wouldn't mean anything if we didn't have a comprehensive and reliable transmission network to carry the power to consumers. On this front, I'd like to congratulate Hydro One for

making significant investments and doing a tremendous job over the past decade.

- Working with LDCs and large customers, we have made some real gains in conservation, increasing our energy efficiency. Together with GreenOn and others, we are also now starting to implement the government's climate change action plan.
- The result is a much cleaner and more reliable system today.
- And change isn't confined to the wholesale side of the system the IESO manages. The distribution sector has seen an equal amount of change. There is growing interest and adoption of distributed energy resources, electric vehicles uptake, emerging storage technologies, and growing customer interest in being part of the distribution system including through the development of community energy plans.
- The increase in Distributed Energy Resources, in particular is leading to a more decentralized and interconnected system, with more moving parts.
- We now have over 4,300 MW of distributed energy resources in service and under development in Ontario, over half of which is solar.
- To continue to serve customers at established reliability standards, DERs need to be fully integrated into electricity system operations, planning, markets, regulations, and policy-driven incentives.
- This is something we've heard from LDCs and communities across the province... a desire to choose distributed resources as alternatives to traditional "wires" solutions in the regional planning process. It's a good example of how DERs can improve how we can collectively serve our customers by offering opportunities for greater customer choice.

- Learnings about the potential for renewable distributed generation will also come from the Request for Information from non-emitting resources the IESO has issued.
- This RFI will help us understand the capabilities of non-emitting resources in Ontario more broadly, but that includes learning about the resource characteristics of renewable distributed generation, and how their attributes could support our operations and planning.
- Another area of focus is creating a level playing field upon which DERs can efficiently, fairly, and on a technology-neutral basis compete with *both* transmission and distribution infrastructure and centralized power plants to provide electricity services.
- One of the ways we can do this is by integrating DERs into the market. This step would have other benefits, such as providing more visibility of DER activity and are properly valuing their capabilities. To this end we will work with our industry partners toward a common vision for an efficient and sustainable marketplace.
- Which brings me to one of the most important initiatives that the IESO has taken on since it was first created almost two decades ago and one that really speaks to sector evolution ... market renewal.

Market Renewal

- A lot has changed since the IESO opened the wholesale electricity market in 2002. As I just outlined, our supply mix has changed significantly.
- Yet despite this change, the market design we have today is essentially what we started with in 2002, which means that we are not meeting needs as efficiently as we can nor are we confident that the current market design can accommodate the needs of tomorrow.

- Fundamental changes are required to address these inefficiencies and create a strong foundation for the future.
- The changes associated with our market renewal will take time and we are committed to hearing the advice of our stakeholders to guide us through this process. But given the current positive supply margins we currently have and expect to have through the mid-2020's, now is the time to move forward with these changes.
- At a high level, market renewal is essentially focused on three work streams, energy, capacity and operability.
- The energy work stream initiatives will improve how our electricity resources are scheduled and dispatched, in real time, hour-to-hour and day ahead. The increased efficiency resulting from these efforts will reduce overall system costs.
- Developing an incremental capacity auction is another key feature of market renewal. Building off the success of our demand response auctions over the past few years, an incremental capacity auction can attract a wide range of technologies to compete to meet our energy needs at the lowest possible prices ... again reducing overall system costs for customers.
- Market renewal will also increase the operational flexibility of existing and new resources, helping to ensure that we can effectively respond to unexpected changes in supply and demand.
- With respect to the development of new resources, we are cognizant of some of the concerns expressed by representatives of renewable resources like wind and solar and emerging technologies like storage.
- Recognizing the need to build on Ontario's clean energy supply mix, we have created a separate working group ... the non-emitting resources subcommittee ... to help inform the market design to better accommodate these resources. We will be looking at barriers for the adoption of these resources. We will also be

looking at both what reliability services these clean resources can address and how to appropriately incent them.

- I should however, highlight the results of a recent RFP that selected two storage facilities to provide regulation services. Regulation services help us balance the grid, correcting for short term changes in supply and demand. The bids of the two successful storage facilities represent the lowest per unit cost for regulation services since the market opened ...indicating that these newer technologies are hitting a stage of maturity and are able to compete with traditional technologies.
- High level design work on a number of the work initiatives for Market Renewal is underway and in 2018 we will see the bulk of the high level design work completed.
- All told our market renewal efforts are expected to result in up to \$5.2 billion in efficiency improvements. The results of our market renewal efforts will be instrumental in helping to reduce future costs.
- I have spoken about much change ahead – a few words on how we can enable and manage this change.

2. Leadership and engagement: what meaningful collaboration with IESO will look like

- Stakeholders play a vital role in guiding our market renewal and other efforts. The Market Renewal Working Group has been extremely helpful and we have established stakeholder engagement initiatives in a number of the work streams.
- I can't stress enough the importance of getting input from stakeholders ... that feedback has always been extremely important to me throughout my career and I will continue to do that at the IESO.
- We have a number of forums in place to test our thinking and seek advice:

- the former Smart Grid Forum – now the Energy Transformation Network of Ontario which I am pleased to chair,
 - the cyber security forum,
 - Stakeholder Advisory Committee,
 - and Technical Panel.
- I want to build on these existing forums and make them more useful. I want to make our engagement efforts worth the investment of your time – that they are purposeful, efficient and effective. Not engagement simply for the purpose of engagement.
 - I believe that we can be more purposeful and crisp in these stakeholder forums – with clearer objectives and a disciplined process.
 - The CEO roundtable on market renewal: I will be remaking into a CEO Forum with a mandate beyond market renewal. You can expect me and my team engaging with you and others to help us develop policy and plans to address our future needs.

3. IESO's Leadership: expect both continuity and renewal in the organization and our approach

- I have been proud to lead the IESO over the past six months.
- My first priority when I arrived at the IESO mid-year last year was to meet with employees to get their perspectives on the IESO, our strengths and areas needing improvement. I set up what I called my “listening tour” and had a chance to hear what was on the minds of about 500 employees as we met in small groups.
- It was also clear that we had some alignment issues internally – not surprising given that the organizational structure hadn't changed since the two former organizations were merged over three years ago.

- And from talking to stakeholders, including a number of you in this room, there was more you were looking for us to do with respect to enabling effective policy within this sector and enabling the innovation needed to respond to the changes we continue to see in the sector.
- And you also stressed the need for the IESO to take a leadership role to address the increasing cyber security threats that our industry is facing.
- The new Organizational structure that I announced in Q4 last year addresses those needs.

What's Changing?

- We now have a clearer corporate direction, an aligned organizational structure and are moving to a healthier, more robust values-based culture – all tuned to our reality and the future I want us to make together.
- The new Planning, Acquisition and Operations group brings together functions that are responsible for a reliable and efficient province-wide power system both today and in the future. This includes Planning, Market Design, Resource and Transmission Procurement, and Real Time Operations and Engineering.
- The Market Renewal Program now lives in this business unit to ensure that our market renewal efforts are aligned with planning and serve the future-oriented needs of operations. Leonard Kula, who is sitting at the IESO table, heads up this group. Leonard's first order of business has been to take hold of the market renewal project, recognizing the importance that this initiative has for the sector.
- The new Policy, Engagement and Innovation group aligns the various IESO policy development resources to more effectively develop policy that reflects the broader objectives of the IESO and Ontario's electricity sector, including the need to foster innovation.
- This group will also be responsible for leading the IESO's engagement efforts with our customers and stakeholders, the regulator, the government, and others.

This will help us ensure their input is actively sought, considered as we advance new initiatives. Terry Young heads this group and is also with us today.

- Corporate Resources supports the entire IESO in the execution of our mandate including Human Resources, Finance, Legal, and Information and Technology Services.
- Kim Marshall, our CFO and VP of Corporate Services and Mike Lyle, VP of Legal Resources and Corporate Governance are also with us today.
- To assist me as we move to a more engaged, values-based culture, I have created the new role of Vice President of Human Resources. I am currently conducting search for this role.
- I have also initiated a search for a new Chief Information Officer, with the goal of making IESO a thought leader on cyber security in our sector.
- It's a good team and this organizational structure sets us up to deliver on our mandate and effectively address the significant change that we expect to see in the near future.
- It's also important to recognize what's staying the same:
 - Our commitment to system reliability and operational excellence
 - Expertise that underlies our ability to perform at the highest levels
 - Close and valued relationships with stakeholders, industry partners and government

2018 priorities

- Before I close, I want to speak about some of our other priorities for 2018 beyond market renewal including addressing our responsibilities in the Long Term Energy Plan

- As you know, the government released the LTEP several months ago ... and the IESO is developing an implementation plan for the initiatives identified in the LTEP
- Two of those initiatives are focused on the First Nations and Metis communities ... improving both energy support and conservation programs to these communities
- Our implementation plan will be submitted to the Minister of Energy by the end of this month
- Thanks to all of you that have provided feedback in this early stage
- We will also be continuing to work with LDCs and others on bringing conservation programs to customers across this province.
- We have seen a lot of success in the first three years of the Conservation First Frameworks and most of the LDCs are expected to hit their mid-term targets. We are finalizing a mid-term review that will identify any needed changes to enhance the effectiveness of the conservation efforts in the second half of the framework.
- And we will continue to support the development and implementation of GreenON programs.
- We will also be continuing our efforts to utilize the vast amounts of data that is collected through our Smart Metering Entity. Sorana Ionescu and her team have been working with stakeholders to define the rules for how third parties can access that data while protecting privacy and confidentiality. The IESO expects the Third-Party Access Implementation Plan to be complete in 2018. This includes the processes, procedures and tools to enable the SME to accept and process third-party data requests.

- In closing, as you can tell, it promises to be a busy and consequential year. Through our collective efforts we will build on the successes we have achieved, embrace the future changes that are in store for our sector and continue to contribute to the economic, social and environmental prosperity of this province.
- I want to thank you for the advice and guidance you have given me in my first six months at the IESO. I look forward to continue working with you.
- And I want to thank the OEN for having me here today.

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