



Notes for Remarks:
Ontario Energy Association
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Check Against Delivery

Thank you for the kind introduction. It's a real pleasure to be part of your program today. And congratulations to the OEA award winners, Peter Gregg of Enersource, TransCanada and NRStor – well deserved.

It's been nearly nine months since the merger of the Ontario Power Authority and the IESO. Last December – as we ran up to the formal January 1 merger date – I spoke at an OEA event, which, if I recall correctly, was one of my first outings on behalf of the new IESO. And I'm happy to be back now to share our progress. This morning I'm going to talk about our merger-related accomplishments, how we're shaping the new IESO and the market and some of the challenges in the sector that we will be working together to address. The OEA is a valuable partner in our work – and we value that relationship.

It won't be a surprise that 2015 has been a year where we've had a strong focus on our own organization – to ensure the merger brought the intended benefits. This inward-looking effort is also driving externally focused results. While there is still work to be done, we have brought together two organizations of like-minded, highly-skilled people with considerable expertise and experience. The result? We're delivering greater public value, both in our business and across the entire electricity sector.

As I noted last December, the activities of the new IESO extend all across Ontario's electricity sector. We are better positioned to support change in the sector; improve our markets and how those markets and contracts work together; create efficiencies for the benefit of Ontarians and, of course, promote more efficient use of electricity consistent with the growing culture of conservation in the province.

And at the same time, the merging of the two organizations will see us achieve savings of \$5 million in our first year alone. And these merger savings will be sustained over the

planning period. This effort along with additional cost-saving initiatives will result in a reduction in the combined usage fee charged to all customers.

Starting out the year you will also have heard me outline three strategic themes for the company:

- Providing Public Value
- Building Corporate Resilience
- Respecting and Valuing Our Stakeholders

The Providing Public Value theme establishes goals within the IESO mandate, identifying and creating public value such as efficient system and market operations and cost-effective conservation, as well as working with stakeholders and government to inform public discussion of issues and opportunities in the electricity sector.

The Building Corporate Resilience theme is about operational and administrative flexibility and adaptability – ensuring that the IESO has the employee resources and skills, technologies, and financial and organizational capabilities to achieve the public value outcomes on which it is focused.

The Respect and Value Our Stakeholders theme is about earning stakeholder and government support and building on the organization’s commitment to its stakeholder engagement processes.

Maintaining reliability – both today and tomorrow – is a key public value for the IESO. Achieving that priority extends into functions across the entire IESO – planning for future conditions, procurement of necessary resources, strong working relationships across the sector and excellence in real-time operations are all critical to successfully meeting the IESO’s reliability commitment.

Within these strategic themes, and building on the financial savings embedded in our plans, we'll be focusing on some key deliverables. These include:

- Establishing consistent principles and processes to solicit and respond to input from stakeholders and communities on issues affecting reliability and efficiency across the sector
- Promoting Ontario's culture of conservation through collaborative partnerships that deliver cost-effective programs and solutions
- Planning and preparing for Ontario's future electricity needs
- Securing generation and demand side resources to meet and manage future energy and capacity requirements
- Sustaining superior performance in real time, while integrating new resources, participants and technologies.

Let me highlight some of our initiatives to achieve these goals. We are implementing the new six-year Conservation First Framework – a transformation that is well underway with the distributor community and the IESO.

We will develop analysis to help lay the groundwork for the next long-term plan and complete assessments for all 21 planning regions in the province.

We will also work to increase the efficiency of the market and lower overall system costs. Grid operations will evolve to sustain our level of performance while meeting the challenges of a transforming electricity system. And we will build capability within the IESO – in terms of both systems and skills – to meet changing customer needs.

We'll also be returning to our Stakeholder Advisory Committee for advice on how we measure success in meeting our business objectives. We're looking to our stakeholders for advice on what success looks like in their terms – keeping our strategic themes in mind.

But that's enough about us. The new IESO has entered the stage at a moment where the world's energy landscape is undergoing remarkable change and a greater degree of interconnectedness than ever before. And this is an important consideration for an organization that has to stitch together so many responsibilities, ranging from planning to system operations, to markets, to resource development, to promoting energy conservation. So let me describe to you how we see the environment unfolding around us.

Over the last 10 years, there have been significant changes on the supply side with the phase out of coal-fired generation. And with that change, more natural gas, wind and solar generation has joined the provincial supply mix, helping to meet the province's demand for electricity. And we will see continuing shifts in our supply mix as the Province proceeds with the refurbishments at Darlington and Bruce.

So this is no time to relax – in fact the pace of change is quickening. By 2025, 20,000 megawatts (MW) of renewable energy will be online, representing about half of Ontario's installed capacity. We have also already begun to integrate emerging storage technologies into Ontario's electricity market. This year we will complete the process of procuring about 50 MW of storage, focusing on facilities that can provide long-term benefits while enabling suppliers to demonstrate their technologies.

Ontario currently has about 1,800 MW of distribution-connected solar and we expect to have more than 2,000 MW by 2017. Although this trend has been driven by participation in renewable energy procurement programs, consumers will be finding it increasingly cost-effective and easy to self-generate. Net metering discussions are currently underway – and as distributed energy resources get easier and cheaper to install, and their rate of adoption accelerates, we expect our electricity system will become more decentralized.

And we are already having discussions about what a more efficient, advanced electricity system will look like. People are in the early stages of adopting smart homes, interoperability is expanding and we see growing data driven applications, as just a few examples. Smart grids, with powerful monitoring and automation tools, are increasing the capability for energy companies to effectively respond to the changing daily environment. All of this is empowering consumers and businesses to use energy more wisely and efficiently.

Again, all of this is happening faster than expected. One of the early products of the Smart Grid Forum, which the IESO helped sponsor in 2008, was the Ontario Smart Home Roadmap. This roadmap looked out 20 years – providing an estimated timeline for new technologies and services that would enable home consumers to use electricity in ways that better suited their needs.

Not surprisingly, what had been predicted to occur by 2015 was quickly realized: smart meters for residential customers, Time-of-Use rates, and home automation systems. But what is more remarkable is that some of the technologies we anticipated to see by 2020 and 2030 in the roadmap are already here and many others are not too far off.

For example, the 2008 Roadmap predicted the development, by 2030, of community-level networks, or microgrids, that allowed neighbours to share power, isolate themselves from outages and provide energy to the broader power grid. And by then home batteries and vehicle-to-home technology would be in place as alternate sources of power for homeowners during a power outage.

Well – the future is now. PowerStream already has a microgrid under construction in Penetanguishene that will provide up to 11 hours of backup power supply for approximately 400 of the utility’s customers in that community. The Penetanguishene microgrid will be able to operate either connected to the grid or disconnected from the grid, providing power to customers even when there is a loss of supply from the provincial grid. And last Monday, PowerStream also announced their Virtual Power Plant, a pilot project funded by the IESO’s Conservation Fund, that integrates solar and storage technology for 20 of their residential customers.

And I am pretty sure that Annette Verschuren and NRStor , the OEA’s Emerging Company of the Year, won’t be far behind with a similar offering.

At the same time, we are seeing other important changes in the distribution sector – revenue decoupling, consolidation and the partial divestiture of Hydro One.

Ontario is not the only jurisdiction that is undertaking some degree of soul-searching on the future of its distribution sector. For example, last year, the New York State Public Service Commission launched the *Reforming the Energy Vision* or REV initiative. Of particular interest in the REV process is the proposal for a common distributed system

platform or DSP. In essence, the REV seeks to redesign the distribution system to better address several emerging trends:

- Higher growth of the distributed energy resources
- Falling demand from the traditional electricity system
- Greater need for local resiliency, and
- An emerging commitment to a market-based approach to optimizing generation, load and storage assets at the distribution system level.

In many ways, this market-based approach at the distribution level could be seen as a next step for distribution reforms in Ontario.

So what does all of this mean for the overall electricity sector and for the IESO? As energy efficiency and distributed generation trends continue we will all be increasingly challenged to innovate – providing value in a world where customers may be much less reliant on the traditional system.

These challenges will also affect the success of the IESO's various initiatives. LDCs are the front line for the Conservation First Framework and play a key role in distributed generation programs. And new capacity from distributed generation, demand response and novel technologies will be provided both by LDCs and, potentially, new third-party aggregators. Impressive growth has been seen in all types of products and services on the consumer side of the meter over the past few years, and these could have significant impact on IESO relationships in the future.

So, while the work of the IESO in planning, procurement, conservation and operations

continues, it needs to be informed by the best intelligence available on emerging trends and technologies and how they will change the sector. We'll be relying on many of you in this room to help us understand and stay on top of this ongoing transformation.

One thing for sure – Ontario's electricity sector will continue to evolve – whether that is on the supply side, the smart grid front, or with the organizations that directly serve Ontario's electricity customers. On the market side, we are already working with stakeholders to develop capacity and demand response auctions and we will be examining how the current real-time electricity market should evolve. A robust market structure will be the best foundation for accommodating change and ensuring competitive and cost-effective results for consumers.

So, in closing – while we've been pretty focussed on the internal change processes to capitalize on the merger, we are working through these – and looking more forward. We see a world of accelerating change – and even before we allow for cap-and-trade we see that change as being more dramatic over the next ten to fifteen years than what we've experienced looking back over the last decade. But change is what makes life interesting – and we look forward to working with the OEA and our stakeholders generally to help shape that future for the benefit of the Province.