



Notes for Remarks:

Association of Power Producers of Ontario Conference

Keynote Address

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Check Against Delivery



Thanks very much for that introduction. It's a pleasure to be speaking at the APPrO conference once again. This conference has always been one of the premier energy events of the year ... my congratulations to the organizers ... it is shaping up to be another great conference.

The conference theme this year of Challenge and Change no doubt resonates with all of us here ... we have had a significant amount of change in this sector, and we will continue to undergo that over the foreseeable future. I will touch on that change both past and what's expected in the future in my remarks today. But with challenge also comes opportunity, and I want to talk today about both challenges and opportunities for us as we look ahead.

As you have witnessed, Ontario's electricity sector has gone through significant change in the past decade ... eliminating coal from our system and increasing the amount of renewables in our supply mix. Through the investment of over \$35 billion in new and refurbished generating assets, we have addressed our reliability concerns of a decade ago and implemented a cleaner supply that is able to meet Ontario's needs.

That change in supply mix brought with it a number of challenges, particularly in managing the variable nature of the renewable resources. Working with many of you in this room, we were able to overcome those challenges in a manner that enhanced both reliability and ratepayer value.

And while the past decade will be remembered as one of significant change, it may indeed be eclipsed by what we see over the next 10 years.

We are seeing a transition to more distributed energy resources, much of which will be renewable. By 2025, renewable resources are expected to make up nearly 50 percent of Ontario's installed generating capacity.

Evolutions in technology are also dominating much of the conversation around the anticipated change storage, power walls, micro-grids are just a few of the many concepts in various stages of development. We are seeing a transition towards a system more characterized by two-way flows as well as more and more distributed energy resources.

Customers continue to find ways to help address their own electricity needs. Energy efficiency, demand management and load displacement are proving to be cost-effective resources that are being leveraged in a variety of ways to benefit individuals, industries and the province as a whole. Data-driven apps and solutions are already delivering new insights into consumption patterns and supporting better decision-making about how and when to use electricity.

And of course, there is government policy that has and will continue to drive change. The government's green energy policy largely drove the change over the past decade, and now we are on the eve of implementing the Climate Change Action Plan, which is aimed at reducing greenhouse gas emissions.

The Ontario Planning Outlook that we recently published looks at the implications of the pending change and, in particular, the impacts of the implementation of the Climate Change Action Plan.

I know the next panel is going to discuss the planning framework and, as such, I want to share a high level overview of our planning outlook, which is helping to set up the discussions around the province's Long-Term Energy Plan.

In preparing the report, we considered a range for electricity demand over the next 20 years ... from as high as 197 TWh in 2035 to as low as 133 TWh in 2035. For comparison, our demand in Ontario last year was at 143 TWh.

We produced four different outlooks ... one where demand drops over the next 20 years, one that reflects the level of demand we have today ... and two outlooks that explore the higher levels of demand associated with the government's policy choices on climate change.

And yes, while there will be challenges associated with meeting those higher demands in an ever-changing world, there will inevitably be opportunities for many of you. Ontario would require more electricity resources than we have today to meet those higher levels of demand, which could range between 30 and 50 TWh higher in those two demands outlooks explored in our report.

The potential for water, wind, solar, nuclear, gas, storage, conservation, imports, distributed and other energy resources to meet those higher levels of demand are explored in our report.

While we expect to have some regional needs to be addressed over the next decade ... for the most part ... the need for new resources is expected to surface in the second half of the 20-year planning outlook. Given that positive supply outlook in the short term, it gives us an opportunity to look at how those resources are procured ... which leads me to our market renewal project.

The IESO has identified the need to evolve Ontario's electricity market to address known market inefficiencies and lay the foundation for a more dynamic marketplace in the future. With increasingly variable supply and demand, a more efficient market design will help address the expected challenges in cost-effectively maintaining reliability. As the number and variety of players in Ontario's electricity sector continues to grow, transparent price signals will become increasingly important to coordinate the activities of all participants and drive the most cost-effective outcomes.

We have begun working with stakeholders to develop a plan to address market inefficiencies that have hampered us since market opening and lay the foundation for a more dynamic marketplace. As a start, we have engaged the Brattle Group to look at the opportunities, benefits and costs of this work ... our benefits case if you will. Our expectation is that the benefits case will be completed early next year. And if that examination demonstrates there are significant benefits for Ontario electricity ratepayers, than we will proceed, working with stakeholders every step of the way, to implement a multi-year, multi-stream work plan for market renewal.

Our plan is to target three work streams: energy, capacity and operability. One of our first priorities will be to replace the existing two-schedule system ... long the subject of criticism from a number of us and in particular the Market Surveillance Panel. The transition to a single schedule will allow the elimination of Congestion Management Settlement Credits and enable additional market improvements, such as introducing a day-ahead market and improving the real-time unit commitment process.

As part of our market development efforts, we intend to build off our success in introducing a demand response auction and develop a capacity auction to help address a growing need for flexibility on the system.

We have launched a stakeholder engagement for market renewal and formed an external working group that will provide an additional level of engagement with stakeholders. The members represent a broad cross-section of market participants and stakeholders who will help guide the market renewal work.

It will be a significant project ... one that will reflect the efforts required to open the market back in 2002.

In the meantime, there are still tremendous opportunities for this group to be even more engaged and active in the electricity sector. With the changes in the Ontario electricity sector that I spoke about earlier, we have seen an emerging need to increase the amount of regulation service available in Ontario.

Regulation service is needed to maintain the balance between load and generation on a second-by-second basis. With our current and expected resource mix, we are looking to increase the amount of regulation service that we currently schedule by 50 to 100 MW between 2017 and 2019 and ensuring that we have sufficient market depth to schedule up to another 50 to 100 MW on an as-needed basis by 2020.

We'll be looking to acquire these new regulation services by holding competitive procurements between now and 2020 and examining potential additional regulation products to unlock the value of emerging technologies and fast-moving resources. Future procurements will be aimed at increasing competition and technological diversity in Ontario's regulation market. I would encourage you to review the RFP once it's issued and see how your business can provide this service and leverage this opportunity.

As you can see, we have a lot on the go and while I will be pleased to kick this work off in the New Year, I will turn it over to others to work with you to carry out the work.

When I became the first President of the new merged IESO two years ago, I agreed to serve in this role until June of 2017. That time is fast approaching and the Board of Directors has initiated the search for my replacement. It has been a busy two years full of change and challenge. But there have also been many opportunities to work closely with many of you, and I want to let you know how much I have appreciated that.

Thank you for your time today.