

# Planning in an Evolving Electricity Landscape

## IESO Stakeholder Engagement Days Opening Remarks – November 18, 2020

Leonard Kula

Vice President, Planning, Acquisition and Operations, and Chief Operating Officer, IESO

*Check against delivery*

### Introduction

Hello all, and good morning, I hope you are well.

I am happy to be here today, and to welcome you to the November engagement days. Thank you for joining us.

We are nearing the end of the year, and I don't think I'm alone when I say this year can't end soon enough. I look forward to the day when I can see you all in person, and I really miss being able to work alongside my colleagues at the IESO.

I do hope you and your families have been staying safe and healthy during this time.

And while we all know that this has been a most unusual year, it has also opened the door to new possibilities. While there is great value in those face-to-face connections, virtual participation has allowed for increased connection. In fact, we have had more people attending our engagements over the last 6 months than all of last year – thank you all for adapting and helping us to continue moving important items forward.

Coming back to Ontario's electricity system... there is a lot happening right now. This is true both at the IESO and across the sector.

We are seeing a shift on our resource landscape.

After years of surplus, we are now approaching a time when capacity needs are emerging. This is due to existing contracts with generators starting to expire, Pickering nuclear plant retiring, and nuclear refurbishments continuing.

Newer technologies are making advancements and in particular we are seeing a growing role for distributed energy resources – both in addressing local needs but also potential to address provincial needs.

This presents an opportunity for the province – to introduce more competition in how we acquire resources, and to take advantage of technological advances by enabling broader participation in our markets.

Ratepayers should benefit as competition drives down costs, while businesses looking to provide their services will find new opportunities.

Meanwhile, we continue to face uncertainty in our outlooks due to the on-going pandemic. As COVID continues to impact businesses and the economy, we continue to see a clear emphasis on the need for affordable electricity for Ontarians.

Our focus has always been, and will continue to be, on how to reliably and cost-effectively meet the electricity needs of the province. Stakeholder input will continue to be essential to that task.

As we move forward on various initiatives, it is within this broader context that we will make decisions. We will continue to bring this broad perspective to the table, and we ask that stakeholders provide their advice and their input recognizing this broader context.

We will continue to do our best to connect the dots, showing how all of our initiatives fit together and help achieve common objectives.

Today I will briefly touch on the what the Annual Planning Outlook tells us about our coming needs – Chuck Farmer and team will provide a more in-depth view later.

Then I'll get into the different initiatives underway across the sector to help us prepare for what's to come in this evolving landscape and how they work together to achieve our broader goals. With that, let's get started.

## Annual Planning Outlook (APO)

Our Annual Planning Outlook is set to be released in mid-December.

As I mentioned, we know that the pandemic continues to create uncertainty due to its impact on businesses and the economy.

This uncertainty is reflected in the provincial demand, which is why we continue to include two scenarios based on a fast economic recovery and a slow one to help bookend expectations.

There are some changes to our outlooks compared to what we shared earlier this year.

Taken together, the changes in our demand and supply outlooks don't have a big impact on the timing or magnitude of our capacity needs. Chuck Farmer will detail the drivers behind the changes later this morning.

A capacity need emerges in 2022 that can be met by existing and available resources, while a need for new resources emerges in 2025 as many existing contracts reach end of term and Pickering retires.

The resource adequacy framework will be key in ensuring that there are processes in place to sufficiently meet needs in all timeframes effectively and competitively.

## Resource Adequacy Framework

The importance of stakeholder feedback is evident in the work that has been completed on the resource adequacy framework to date.

As someone who has been intensely involved in capacity acquisition conversations over the last 4 or so years, I can personally testify to the extent to which stakeholder input has influenced my thinking and understanding.

I want to thank you for your input and engagement.

We are continuing to move forward and make meaningful progress. Our work to wrap up the high-level framework by the end of the year demonstrates that.

Our next steps are to bring the high-level framework to our Board of Directors in December and present it to stakeholders in the new year.

The next phase of the engagement will focus on the details needed to operationalize and implement the framework, and will be discussed in greater detail in today's engagement session.

As we've said, the framework will include short-, medium- and long-term mechanisms.

In the short-term, capacity auctions will be a primary mechanism for acquiring smaller amounts of capacity to meet near-term fluctuating needs.

The first capacity auction is taking place in the coming weeks – building upon the successes demonstrated over 5 years of executing the Demand Response Auction.

The capacity auction will enable and increase competition between additional resource types. Allowing existing off-contract generators, existing storage and system backed imports to participate.

While an auction is only one tool, it represents a milestone in our efforts to increase competition, drive down costs, and have more flexibility in how we meet our needs.

The IESO intends to regularly enhance the Capacity Auction to increase competition and performance consistent with the proposed Resource Adequacy Framework.

Engagement on features and timing of auction enhancements will begin in early 2021.

As we look farther out, capacity needs in the mid-2020s are expected to exceed what we are capable of meeting with existing resources. Capacity auctions and other competitive mechanisms to be defined through the Resource Adequacy engagement will help meet this need.

As we've said before – we recognize there is not one solution for all resource types. And as we look to introduce more competition in how we acquire resources, we also need to recognize that resources are coming off contract at different times.

That is why we need to be pragmatic and take a staged approach.

We have been looking at how the resources that come off of contract over the next five years impact our reliability and there are a few pockets of concern – due to the geographic location and size of the gap that arises when these resources come off of contract, as well as the flexibility these resources currently provide.

The first is Lennox, coming off contract in 2022. This resource is critical to reliability due to its location relative to the load centre in Toronto and the operational flexibility it provides for our control room operators.

At this point, it is clear there is not enough un-committed capacity to compete with Lennox, which is a 2,000 MW facility. We don't see there being enough competition to address system needs in that area until the mid-2020s, when we expect resources to compete for a commitment period beginning in 2028.

Because of this, we will be negotiating a short-term extension of its contract until there is sufficient uncommitted capacity for it to compete with.

Extending Lennox will provide assurance that we can maintain reliability, and from a cost perspective it remains one of the lowest-cost capacity resources we have in the province.

As we've said before, the transition to a more competitive marketplace will not happen overnight. Certain steps will be necessary that at first glance may seem to be counterproductive but are intended to facilitate increased competition in the future.

In addition to Lennox, as I mentioned, there are a few pockets of concern. We are currently looking at whether targeted competitive procurements can address these. We will have more on this in the new year.

We need time to get to where we want to be – with more enduring procurement mechanisms in place – and this is an important step to get us to our ultimate destination.

## Enabling Resources

I would now like to talk a bit about the work that the IESO is doing to enable resources to participate more fully in the IESO-administered markets. We need to ensure that resources acquired to provide capacity are effectively enabled to compete to deliver power system reliability services in an efficient manner which enhances competition, and provides cost-efficient power.

To enable resources takes time. No resource is fully enabled; nuclear, gas and hydroelectric resources are widely enabled and we are enhancing the participation models for hydroelectric and gas with the Market Renewal - Energy project.

Our electricity system is complex, and like an orchestra, we need our diverse supply mix playing the same tune.

We have gas plants that take a number of hours to start-up and get to minimum output, alongside hydro facilities that can be online and delivering maximum output in minutes, alongside wind and solar facilities that generate when the wind and sun allows them to.

To ensure the reliability of the grid we need to make sure these resources are integrated seamlessly. That has been a characteristic of our real-time dispatch algorithms.

A recent model for success is demand response. We took a three-staged approach that I think can be applied to other resources, which involves pilots, programs and, eventually, markets.

DR pilots helped us learn about demand response in very narrow and targeted ways.

After gaining some experience, we evolved it into a program that allowed DR to function alongside our markets – you may remember the DR2 and DR3 programs.

These programs really helped us understand how DR could be dispatched on a level playing field with other resources. It was after this that we fully integrated DR into our markets.

Since the launch of the first DR Auction in 2015, the DR market grew as participation increased, which also caused costs to decrease. This is a great example of how new resources can be effectively integrated.

Working with stakeholders, we have held discussions to understand the opportunities to expand resource participation in the operating reserve market, but we want to broaden that discussion and start taking action.

An Enabling Resources work plan will be shared in Q1 that will lead to further engagement.

There is already a lot of great work underway – for example the recent release of the storage interim design and longer-term vision.

We also continue to have discussions about FERC order 2222, which aims to have DERs integrated into wholesale markets in the early 2020s, and understand the implications for Ontario.

As I said earlier, it's important to connect the dots to show how these various initiatives fit together, and that's why a broader plan around enabling resources is needed.

As we continue with this work, it's important to note that enabling resources isn't just about new resources.

## Local Solutions

A lot of great work related to enabling resources is happening at the community level. I want to briefly talk about the work that's happening at this level and the increasing importance of coordination between the provincial and local distribution grids.

We are seeing how DERs have the potential to yield solutions to local and regional issues, provide cost-effective alternatives to traditional electricity infrastructure, and enhance resilience for customers.

Two examples of where this work is being done is in Windsor-Essex and York Region.

In York Region, the IESO recently launched the province's first local electricity market to better understand the potential of using DERs in place of traditional wires-based infrastructure; and as it so happens, the auction is taking place today.

This pilot will help advance our understanding of grid-LDC interoperability.

In Windsor-Essex, we expect to see electricity demand double over the next five years due to strong agricultural growth.

Here we are using targeted local solutions to address the need. These initiatives include investments in energy efficiency projects through the Grid Innovation Fund, and targeted conservation programs for the greenhouse sector.

The new conservation framework for 2021-2024 is another example where we are looking at how local solutions can help address provincial needs.

The fast-growing Leamington area is an example where we've seen the potential for energy efficiency to help address local capacity needs. We have targeted programs in the area that are allowing businesses to save costs by being more energy efficient while also alleviating capacity constraints on the grid.

We know that conservation remains the most cost-effective resource at 2.1 cents per kWh.

This new framework focuses on achieving provincial peak demand reductions alongside meeting local and regional needs. At the mid-term of the framework we will re-assess system needs and adjust conservation programming as needed.

As we move from years of surplus to a period when system needs are emerging, these local solutions will increasingly have potential as cost-efficient alternatives to more traditional provincial grid solutions.

Our regional planning process is essential in understanding the needs of communities, and what work needs to be done to not only address their needs, but how it connects to the provincial planning process. They must be considered together.

In areas with projected increased electricity growth, communities have introduced pilots and programs that will help to alleviate capacity needs, which in turns alleviates capacity needs from the transmission system. That creates cost-efficiencies across the board.

## Market Renewal

Before I go, I want to take it back to the provincial level.

I would be remiss if I did not mention the Market Renewal Energy project. Although there is no engagement on the project this month, I would still like to outline the importance of this work and what has been completed as of late.

The Market Renewal Energy Project is essential in helping to align the Ontario electricity market with other jurisdictions, to address known inefficiencies in the market - by enhancing the participation models for hydroelectric and gas, and lay the foundation to integrate future technologies.

The project team is working on concluding the Detailed Design phase of the project as soon as possible in the first quarter of the new year. The conclusion of detailed design is a huge project milestone – Version 1's of all 14 detailed design documents (over 2000 pages of documentation) have been published and valuable stakeholder feedback (600 + comments) has been provided on 12 of the 14 detailed design documents.

Stakeholders have provided valuable insights in this pivotal phase to ensure we are ready to transact in the renewed market by having the right information, interfaces, tools and training – all dependent upon a solid understanding of how the markets are changing.

Preparations for the next phase of the project, 'Implementation' are underway.

When implemented, the Market Renewal business case shows net benefits will reach at least \$800 million during the first 10 years, and continue well beyond that period.

## Closing

It is clear that there is much happening across the sector, much of which is interrelated.

This is why it's important for us all to understand the broader context within which we are making decisions.

Engagement is essential at all levels, and we are committed to getting different perspectives.

As we move forward, collaboration and transparency remain key in ensuring a reliable system in an evolving sector.

And with that, I want to thank you for your time today.

I will now pass it back to Jordan, and take any questions you may have.