



**Notes for Remarks to the
Ontario Energy Network Luncheon**

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**Peter Gregg
President and CEO
Independent Electricity System Operator**

Thanks very much for that kind introduction.

A year ago was my first opportunity to speak at this event ... this came when I had been the IESO CEO for only six months. A lot has changed since then.

Externally of course the big change has been the change in government. Like many of you in this room, we have been working with the new government, briefing them on the issues and opportunities that are in front of us. And we have been working with them to implement some of their policy decisions. I had a chance to spend some time with Energy Minister Greg Rickford just last Friday at Bruce Power where we announced a \$200 million savings through our contract with Bruce Power. It's a good example of the focus this sector is bringing to making electricity more affordable for Ontarians.

There has been a lot happening at the IESO as well. I want to give you a sense of what we have been up to for the past 12 months, outline our priorities for the next 12 months, and most importantly discuss how we can work together on those priorities.

A year ago I spoke to our continued commitment to serve customers at established reliability standards. I also spoke to the need to improve the efficiency of the markets and to ensure that we are enabling the changes of tomorrow.

There has been significant progress on those fronts progress that you will continue to see in 2019.

As I mentioned last year, my first six months at the IESO were spent talking to both employees and key stakeholders about the IESO. Our conversations focused on our many strengths and where I needed to focus my energies as the leader of this organization.

I quickly recognized that this was an organization of many strong parts, but one that lacked a singular, transparent focus. We were not clear on what our mandate was ... which is not surprising in some respects given ongoing adjustments associated with the merger of the two predecessor organizations.

Over the past year, I have been working with our Board, the executive, senior leadership, other employees and some of our external stakeholders to help define our mandate, our value and our strategies to carry out our responsibilities.

At our core, we are the province's electricity grid operator and system planner. We ensure the reliability of Ontario's power system on behalf of all Ontarians.

We work with stakeholders, governments, Indigenous and other communities across the province to provide an efficient supply of electricity ... when and where it's needed.

It's important to remember that we are a not-for-profit organization, with no financial stake in our industry, which enables our **independent decision-making ... at the operational, executive and board levels.**

We recognize that these are huge responsibilities that we will honour. We have a focus on reliability and affordability and our strategy is to rely on competitive forces to secure resources and services that enhance reliability and drive down costs.

That focus on reliability and affordability has driven our actions over the past 12 months and will continue to guide us in the future.

To that end, we are once again seeking to hold our revenue requirements flat this year. If approved by the OEB, it will mean our 2019 fee will stay at the 2017 level.

But this doesn't mean we are doing less – importantly we are delivering on our mandate by being focused and disciplined.

Over the next few minutes I will outline some of our plans for 2019 ... particularly in three areas – market renewal, cybersecurity and innovation.

Our key focus in 2019 will be the Market Renewal Program.

MRP represents the most important redesign of Ontario's electricity market since it opened 17 years ago. The need for and benefits of this redesign speak to our investment in this.

The markets that we are operating today are in need of significant updates. These reforms will allow us to accommodate the changes we have seen since market opening – changes in our resource fleet, changes in consumer behaviour and changes in how to use competitive approaches more effectively.

But it will also allow us to prepare for future changes as we welcome new market participants, new technologies and new approaches to meeting Ontario's electricity needs. New participants will result in increased competition which should drive costs down and ultimately lower rates for Ontario consumers.

As a result of our market renewal efforts, we are expecting to see savings of approximately \$3.4 billion over a 10-year period ... or an annual average of \$340 million off of our annual electricity bill.

As you know, market renewal comprises two streams: energy, which is the actual production of electricity and capacity, which is having resources available to produce electricity when needed.

The energy stream initiatives improve upon our dispatch and pricing activities in real-time – programs that we have been executing since 2002. What was once a cutting-edge design is now older and has become less effective as the system transformed.

Both the OEB's Market Surveillance Panel and more recently the Auditor General have identified inefficiencies in our current mechanisms,

inefficiencies that we need to address. In 2018, we produced three high-level designs for comment that will make significant enhancements to our current mechanisms ... addressing the single schedule market, enhanced real-time unit commitment, and day-ahead market. We are starting to sift through the comments we receive and will incorporate these comments into our next iterations as we move to the detailed design phase.

Let me now turn to the capacity work stream. In March, we will also provide for public comment the high-level design for the incremental capacity auction. This is a major step forward for the program and for the IESO.

Over the years, Ontario and other jurisdictions have used different approaches to meet capacity needs. Most recently, Ontario has relied on a series of long-term contracts that generally provided some form of guaranteed annual revenue to generators for periods of 20 years or more.

This reliance on long term contracts did address our shortfalls through the addition of tens of thousands of megawatts; however, the lack of flexibility inherent in many of these contracts has led to higher costs for consumers.

This lack of flexibility shows up in a couple of ways:

- Our needs for capacity fluctuate from year to year. And while a long-term contracting approach is designed to address the largest capacity gap in any year, it can also lead to having more capacity than we

need. As you know, Ontario has found itself with excess capacity now for some time;

- And as the system and our reliability needs evolve, we can adapt our market mechanisms to better align with system need. In contrast, contract changes can require lengthy negotiation to change terms.

The introduction of an incremental capacity auction at the end of 2022 is expected to drive significant benefits for Ontario ... much of the \$3.4 billion in savings that I spoke about comes from our future reliance on a capacity auction.

Capacity auctions provide the needed flexibility and allow us to more efficiently adjust to changing supply and demand dynamics. The auction will provide for more flexible, transparent, technology-neutral, competitive mechanisms to meet Ontario supply needs at lowest cost.

The development of a capacity auction is an example of our intended approach to rely on competitive mechanisms to secure future resources. And ... in concert with the ICA ... we are enhancing our long-term planning products to regularly and transparently identify Ontario's electricity needs. We have recently introduced a five-year reliability outlook that we are publishing twice a year.

As we ask suppliers to sharpen their pencils to participate in the auction, we at the IESO must ensure that these companies have access to the most current information about Ontario's electricity needs.

After more than a decade of intense capital investment, Ontario now has a clean and reliable electricity system. Over 93 per cent of the provincial supply last year was generated by non-emitting resources, such as nuclear, water and renewable sources like wind and solar.

Our development of the capacity auction is timely. Within the next few years, some of the longer-term generation contracts we have signed will start to expire. This will enable us to transition to using the ICA to secure required capacity, providing assurance that resources will continue to be available to meet demand in future years ... albeit at a much better price.

This transition to a capacity auction will start to take shape later this year. As you know, in September we produced a new planning report which indicated a potential capacity gap emerging in 2023.

This gap would emerge at a time when Pickering units are closing, as nuclear refurbishments are underway and as some of our generation contracts expire.

While the forecasted gap is relatively small at the moment, our ability to continue to rely on existing resources such as conservation, could affect both the timing and the size of any potential gap.

Our Planning Group is now working to confirm that earlier assessment and we expect to have a clearer picture of our more immediate capacity needs in the third quarter of this year.

We will meet those capacity needs by leveraging the competitive mechanisms we have in place right now such as the annual demand response auction. We ran our first DR auction in 2015. Last month, in the fourth year of the auction, we acquired more than 800 MW of demand response for both the upcoming summer and winter commitment periods ... at a price that was 43 per cent less than the first DR auction.

Not only are we seeing prices drop, but we are seeing increased participation in the DR auction. The successful proponents in last month's auction included four new participants representing both commercial and industrial demand resources.

In December, we will run an auction to meet capacity needs for 2020. Our goal is to have that auction and subsequent auctions build on the current demand response auction including allowing more resource types to compete. This would provide generators whose contracts are expiring over the next few years an opportunity to compete in our electricity market and help meet emerging capacity needs.

It is a staged approach to a much more competitive marketplace ... one that we at the IESO and others are striving for. It allows us to realize efficiency, competition and transparency ... the key principles of our market renewal efforts – as quickly as possible.

It's also a sensible approach, allowing both the IESO and market participants to continue to learn and improve our processes as capacity needs increase.

This staging will culminate in the implementation of the incremental capacity auction design that we have been developing with stakeholders. We expect to have that up and running by the end of 2022.

At the same time, there are more immediate needs in some parts of the province that we need to move quickly on.

One of those is in the Windsor-Essex area where we see a significant increase in demand looming. Over the next five years, current demand is expected to double. This is driven by strong agricultural growth in the greenhouse sector, both vegetable and cannabis. Take a drive along Highway 77 and you can see a lot of new greenhouses being built.

We have started working with the local community on how to best address that increase in demand. We see the need for new transmission infrastructure and again we are looking to see if competitive mechanisms can drive those costs down.

Let me switch gears for a moment and talk about something that has occupied quite a bit of my time ... and that is being prepared to deal with the growing cybersecurity threats that are materializing.

The IESO's licence has been amended to reflect our expanded accountability for providing cybersecurity-related services to the broader electricity sector. With this change, the IESO becomes the first system operator in North America to lead the sector on cybersecurity matters.

It recognizes our leadership in protecting Ontario's power grid from cyber threats and leverages the comprehensive cybersecurity governance framework that we already have in place for our own operations.

In support of our new mandate, we have established partnerships with the Canadian Centre for Cyber Security. The Cyber Centre is the central trusted federal government source of cybersecurity information, advice and guidance for Canadian enterprises, critical infrastructure owners and operators and Canadians.

The IESO has also established a new Security Operations Centre. It went live at the end of 2018. This centre provides actionable information, in a near real-time capacity, 24/7 in order to improve incident detection and response capabilities across our sector.

Recognizing our leadership role, we are also working with all licensed transmitters and distributors to facilitate the sharing of centralized cybersecurity information. This includes bringing together our sector counterparts, as well as the world's leading cybersecurity policy experts to share best practices in addressing existing and emerging cybersecurity issues within Ontario's electricity sector

As part of our focus on cyber, I am joining the Electricity Subsector Coordinating Council as one of two Canadian members. The council acts as the liaison between the North American energy sector and federal governments to coordinate our efforts to prepare for national-level threats to our critical infrastructure.

As we look at the electricity sector since 2006, which is when I joined it, we have seen a continuous change. The way electricity is produced has changed significantly as has the way that we consume it.

All we have to do is look at the growth of distributed energy resources in the last decade or so.

DERs are helping to shape a more decentralized electricity system, changing the relationship between local distribution systems and broader transmission system. They are also providing more customer choice – through the IESO’s regional planning process, some communities have expressed a preference for DERs to address regional demand growth or to replace aging assets. DERs may also present opportunities to optimize overall system investments and provide a range of grid services.

At the end of 2017, there were more than 3,880 MW of contracted embedded generation within local distribution systems, a 25 percent increase over 2016.

New technologies are coming at us quickly ... and the potential of these new technologies and services is significant. But so is the risk that the adoption of these innovative approaches could undermine the reliability and affordability of our system.

Last year, working with an extensive group of stakeholders, the IESO developed an innovation road map. This road map, which is posted on our website, sets out a framework and focus for electricity sector innovation.

The priority areas of focus for the IESO include:

- Unlocking the value of new and existing resources;
- Leadership with respect to emerging cybersecurity risks;
- Increasing transparency and visibility of distributed resources; and
- Developing new capability to collect, store, analyze and use that data that comes with the operation of the power system.

I have talked already about our cybersecurity efforts. But this year will also see us focusing on distributed energy resources:

- Working with broader sector participants to help enable these DERs to compete in the IESO-administered markets;
- And developing several demonstration projects with others to understand the value and ability of DERs to address local needs as alternatives to traditional transmission and distribution infrastructure.

Storage is another priority for us this year. We will be working with the Energy Storage Advisory group to help enable storage to compete in our markets. This is in line with efforts of our U.S. system operators who are required by FERC to fully enable storage to compete to provide all energy, capacity and ancillary services by the end of 2019.

As we move forward with our 2019 plans, whether it's market renewal, addressing a potential capacity gap, addressing needs in a particular area of the province or helping to enable innovation ... we can't do this alone.

The principle of collaboration ... partnering with others to drive better outcomes ... is one that we have embraced.

Our plans and activities benefit from our engagement, whether that's about rule changes, process changes or policy development.

However, in getting your advice and input we also need to be mindful of the time commitments that are involved in our engagements.

In 2017, more than 5,300 people attended one or more of our 120 engagement activities. And while that number certainly demonstrates inclusiveness, I would suggest it's a number that's not sustainable.

Our challenge this year is to better streamline our engagement activities ... Creating the same opportunity to provide meaningful input but doing so in a way that reduces the time commitment of stakeholders.

There is no question that this sector will continue to evolve and there is uncertainty ahead of us.

But over the past decade we have become used to this uncertainty. Yes we need to get better at managing risk and embrace the changing environment that we are in.

But I challenge you to find another sector that has faced as much change as we have over the past decade or will over the next.

As you can tell, there is a lot on our plates for 2019. Over the past 18 months, we have been laying the foundation for some of our future plans. We have a clear mandate, a strategy on how we are achieving that mandate and a commitment to work with you and others.

Now is the time for us to get on with the execution of those plans.

I hope to come back next year and report on the progress that we collectively have made.

Thanks again for inviting me here today.

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