Notes for Remarks:

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Check Against Delivery

Thank you for that kind introduction. It's always a pleasure to visit Sudbury.

I would like to begin by acknowledging that we're gathered today in the Robinson-Huron treaty area and in the traditional territories of the Atikameksheng Anishnawbek and Wahnipitae First Nations.

Sudbury has an interesting history when it comes to energy. At the turn of the 20th century, it established itself as one of the first communities in the province to own and operate its own electricity generating facility. In the time since then, it has continued to grow into a regional capital with a diverse mix of industries and has formed itself as a leading hub for research, innovation and education.

Sudbury's leadership on the world-stage includes its expertise in mining innovation. We are pleased to be joined today by Dr. Dean Millar, who is the founder of the Hydraulic Air Compressor concept. He helped to refine a new energy-efficient hydraulic compressor technology, primarily for deep mining applications that could save considerable costs for mine operators. We will hear from him a little later today.

From an electricity planning perspective, the Northeastern Ontario region encompasses a rather vast geographic area. It ranges from the southern shores of Manitoulin Island, all the way up to Moosonee, where the Moose River in the Hudson Plains meets the lower shores of James Bay.

So we're talking a large area, representing a broad spectrum of energy-related needs.

We're grateful to all of you here today for joining us in an important dialogue about energy. It's important for us to consider the local perspective and work closely with communities and consumers to develop viable solutions to provincial, regional and local electricity challenges.

I have a few themes that I would like to touch on today, to provide some context for our session. Last month, the province released its 2017 Long-Term Energy Plan or "LTEP." The LTEP forecasts were based on IESO data and also included inputs determined by Ontario's Ministry of Energy to reflect government policy.

The IESO is now tasked with developing an Implementation Plan for nine specific initiatives that are included in the LTEP.

I won't go into each initiative, as you'll hear about them later today, but what I'd like to do is touch on some major themes that were identified in the plan, and how the IESO will be taking a leading role.

Transformation of the sector and growing opportunity for the consumer

Ontario's energy landscape has been transformed in the last 10 years or so. Coal, which at one point made up one-quarter of our installed capacity, has been retired and replaced with renewable generation, refurbished nuclear and natural gas. Consumers have also taken a greater role in meeting system and their own needs.

Since 2006, Ontarians have also saved more than 68 billion kilowatt-hours through conservation and energy efficiency. To put that in perspective, that's how much electricity Sudbury Hydro customers would consume over 80 years.

Conservation benefits both customers as well as the wider provincial power system by helping to lower peak demand and defer or avoid the need to build costly new generation, transmission or distribution infrastructure. It is the most cost-effective supply resource available, at less than four cents per kilowatt-hour.

Through the Conservation First Framework, the IESO is working closely with local distribution companies like Greater Sudbury Hydro, North Bay Hydro, Hydro One and others, to put in place conservation programs that will help customers reduce their use of electricity. By working closely with their customers and delivering conservation programs under the Save on Energy banner, since 2015 Ontario's local electric utility companies have achieved almost 50 percent of the 2020 target of 7 TWh.

The Save on Energy programs help consumers of all types take greater control of their energy use and reduce both their current and future energy costs. There are opportunities and programs available to all types of consumers, from residential customers to schools, hospitals, manufacturers, retailers and more. The bottom line is that Ontario is committed to putting conservation first, both as a resource for the energy system and as a tool for consumers to manage their energy costs.

This applies to industrial consumers as well. Last year, I was able to visit Glencore's Kidd Creek mine, which is the deepest base metal mine in the world. Dressed in a high visibility suit, my colleagues and I toured some of their recently installed energy-efficiency equipment. At over 9,500 feet deep, this mine is considered the closest accessible point to the center of the earth. We didn't get quite that far, but made it about three-quarters of the way down.

Glencore is an active participant in the Industrial Conservation Initiative (ICI), which provides incentives to large electricity consumers to reduce their consumption and lower their electricity costs during peak hours. Earlier this year, the provincial government broadened the eligibility requirements for this program.

A growing number of other industrial customers are also optimizing their operations and controlling their energy costs through conservation programs like the Industrial Accelerator Program, or IAP. There are more than 20 facilities in Northeast Ontario that are participating in the IAP at this time, including Glencore, Vale, Tembec and others.

Participants in the program include some of the largest employers in the region…and generally represent mining and forestry operations. Collectively, these companies have dozens of projects underway or under development, and the results to date are very promising. Participating mines are implementing lighting upgrades, ventilation-on-demand projects, pumping improvement projects and compressed air system optimization. Others are using energy managers that save – at a minimum – 2 GWh per energy manager per site.

There are also plenty of training opportunities to get engaged with energy efficiency. And the IESO also sponsors engineering support, audits or facility walkthroughs to kick-start moving from ideas into projects.

So from securing capital investment needed for major energy-efficiency projects, to accessing incentives designed to reduce consumption, there are a variety of measures to help industrial users manage their usage and reduce costs.

In addition to the transition away from coal-fired generation and increased conservation measures, over the past 10 years we have also seen a significant increase in renewable resources. Today, we have about 4,800 megawatts of wind generation, over 2,300 MW of solar, and about 600 MW of biofuel. We've also seen an increase in hydro resources. This has resulted in a much cleaner electricity system. In fact, last year over 90 percent of the electricity produced was emissions free.

A lot of this renewable generation is the result of the FIT and microFIT programs that were introduced in 2009. The IESO announced the results of the final FIT procurement in September, which had more than 80 percent of the projects with Indigenous, municipal or community participation.

We are also in the midst of a shift from a centralized electricity system to an increasingly decentralized one. Although our focus has traditionally been on large generators connected to the high-voltage transmission system, we're seeing more and more generation being developed and connected at the low-voltage, distribution level. There are a few reasons for this shift, but in general consumers are taking advantage of the opportunities coming from technology and policy changes that incentivize smaller, local solutions.

Like other jurisdictions across North America, Ontario is experiencing the rapid expansion of

distributed energy resources – small-scale physical or virtual assets on the supply side or the demand side, including generation and storage. We now have about 2,000 MW of solar generation embedded within local distribution company territories, mostly connected to homes and businesses.

That number continues to grow – and is expected to reach nearly 3,000 MW by 2020. While it makes important contributions to Ontario's supply mix, distribution-connected generation poses some unique operational challenges for us. For example, the IESO has limited visibility into the behavior of these resources. By "visibility" I mean we generally cannot "see" what these resources are doing at any given time as we don't have information sent to our control centre.

When you've got several thousand megawatts of embedded generation, plus a growing amount of distribution-connected energy storage, as well as an array of tools and programs to reduce consumption, all together that makes for a fairly significant blind spot. That's why we're working with LDCs to establish better ways of working together to maximize the benefits of these resources.

Across the province, LDCs are expanding their roles, pursuing new business models and finding new ways to engage their customers. For example, Greater Sudbury Hydro has partnered on a smart grid demonstration project at the Science North education centre.

With this microgrid project, Science North can generate electricity from a series of onsite solar panels, store that power through the use of an advanced energy storage system, and then build that into the building's energy management system. The project gives Science North greater control over its energy consumption and allows it to be an active participant in the electricity system.

Another example is North Bay's Community Energy Park, which is being funded in part through the IESO's Conservation Fund. This project will establish a microgrid with battery energy storage and a district energy system serving a number of North Bay community facilities. North Bay Hydro Services and its partners will perform a series of tests exploring the capabilities of the microgrid and its electricity conservation, greenhouse gas reduction and resiliency benefits.

What's clear is that consumers are engaging differently with energy today than they did five years ago. With the introduction of the Government of Ontario's Climate Change Action Plan, initiatives such as the Green Ontario Fund, and the suite of programs available through Save on Energy, customers in Ontario are taking a more active role in managing their energy consumption.

Engaging with energy

Communities are also taking a long, hard look at how they use energy. Community energy planning is a powerful concept. Through the development of an energy plan, communities are coming to understand how they use energy; identify ways to reduce their consumption (and their costs); set long-term priorities, objectives and targets; explore opportunities for renewable generation, microgrids, net metering and other local alternatives; and make informed decisions that will enhance local resilience and prosperity. There is substantial support for the development of community energy plans from the Ministry of Energy. Close to 100 First Nation communities have received support from the IESO to develop their own community energy plans, and we have developed further support for communities to begin to implement those plans.

To a greater and greater extent, energy decisions are being made on a local and regional basis. Consumers and communities alike are seeking greater self-sufficiency and a larger role in these decisions – making the discussions that happen at this session so important.

Whether you install rooftop solar panels…participate in energy conservation through the IESO's Save on Energy programs…attend a local advisory committee meeting…join one of our many engagement sessions…contribute to a community energy plan…or engage in some other way…this is your opportunity to play a part in shaping Ontario's energy future.

I've spent a fair bit of time describing the supply and demand sides of the energy equation. I'd like to take a moment to focus on the wholesale electricity market that brings supply and demand together. Ontario's electricity market was designed in the late 1990s and opened in 2002, when the electricity landscape looked very different from today. As I've noted, a lot has changed in the past 15 years. We have new resources, new technologies, new players, new business models and new operational requirements to consider.

The Market Renewal Project is a collaborative effort between the IESO and its stakeholders to pursue enhancements to Ontario's electricity market that will address existing inefficiencies and lay a foundation that will help us prepare for the electricity sector of tomorrow.

Our Market Renewal project is about rebuilding the foundations of Ontario's wholesale electricity markets to provide greater transparency, promote competition and deliver more efficient outcomes. The project has a broad reach, addressing the way we schedule energy, procure resources and meet operability needs in the province.

Perhaps more importantly, Market Renewal will also deliver significant financial efficiencies. When fully implemented, the project has the potential to provide net benefits to consumers and generators of approximately $3.4 billion over a 10-year period.

Evolution of the IESO's stakeholder base

We have a diverse group of stakeholders. They include generators, transmitters, local distribution companies, large-scale industrial consumers, energy traders, academic institutions and many others.

We also engage with communities, because a reliable supply of electricity is essential to supporting community growth – powering homes, schools, businesses, hospitals and transportation. Engaging with communities is an important part of maintaining a reliable electricity supply, now and in the future.

It is also important that we engage with each and every one of you here today.

As the sector continues to evolve, the IESO's approach to engagement is also evolving. We're reaching out to new and different audiences as a way to ensure everyone's voice is heard, and everyone's opinion is considered.

In addition to a formal, industry-focused Stakeholder Advisory Committee and Technical Panel, we have established standing committees, working groups, and local advisory committees. This is in addition to our continued commitment to our relationships with First Nations and Métis. Our objective is to provide individuals, communities and organizations with the information they require and an opportunity to provide input and feedback about proposed decisions that may affect them.

We are working with customers, communities, stakeholders and Indigenous peoples to collectively plan for the grid of tomorrow.

But we can't do that in isolation. We will continue to seek ideas and input from the ones who are most affected by our decisions and our recommendations – people like you. This will be an ongoing dialogue, and I cannot overstate the importance of sharing your views with us, with your LDC, with your municipal officials, and with other groups. We invite you to continue the conversation.

Thank you for your time. I look forward to all the discussions that ensue over the course of the day and to working with you to identify practical, cost-effective solutions that work for Northeastern Ontario.

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