



**Notes for Remarks:**  
**Southwest Ontario (London) Regional Forum**  
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Check Against Delivery

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

I would like to begin by acknowledging that we're gathered in the traditional territories of the Anishinaabeg, Haudenosaunee, Attawandaron, and Wendat peoples. We are grateful for the opportunity to meet here, and we thank all of the generations of people who have taken care of this land for thousands of years.

Our host city today, London, played an important role ushering in the dawn of Ontario's electrical age in the first part of the twentieth century. Sir Adam Beck – a notable Londoner – was instrumental in setting up the early grid to deliver hydroelectric generation from Niagara Falls to the rest of Ontario. He was also appointed the first chairperson of the Hydro-Electric Power Commission of Ontario.

While Kitchener would be the first city to receive power from this connected hydro system, in 1910, it would be quickly followed by London as well as Guelph, Waterloo, Hamilton and Woodstock. London, and surrounding communities, would be among the first to experience electrification via electric transportation, lighting in public streets, in shop windows, at fairs and exhibitions.

Of course a lot has changed since then. We fast forward more than a hundred years, and London is now home to some of the world's leading medical research institutes, as well as insurance, manufacturing and information technology firms. Both London and the surrounding area have seen a lot of growth, aided in part by its early innovations in electric power.

To provide broader context into this, today's session will start with a focus on the transformation that's been happening in the provincial electricity system in recent years. As we move through the day, the conversation will become increasingly region-specific.

From an electricity planning perspective, Ontario's Southwest area includes seven planning regions spanning from Windsor to Niagara and north to Bruce County. Needless to say, it is a large area, and with that comes a wide range of electricity needs.

In this region, we're seeing new load growth, partly as a result of greenhouse expansions, and at the same time, we're seeing communities looking at more community-based energy solutions. Today you'll hear about how electricity operations and planning for the provincial system, as well as regional and community needs, are shaping the system for the future.

We're grateful to all of you here today for joining us in an important dialogue about energy. It's important because we need 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 about how much electricity London Hydro customers would consume over 20 years (based on 2016 consumption).

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 London Hydro, Guelph Hydro, Enwin, Essex, Erie Thames, Kitchener-Wilmot, Hydro One and others in the region, 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, as of mid-October, achieved almost 50 percent of the 2020 target of 7 TWh. And, this has been achieved cost-effectively at 3.3 cents per kilowatt-hour.

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.

Take, for example, Valiant TMS, which provides automation and assembly solutions for the automotive and aerospace industries, and which has number of facilities in the Windsor area. Valiant worked with its local distribution company, Enwin Utilities, and accessed financial support through the Save on Energy programs to make a series of energy-efficiency upgrades and enhancements at its facilities. These included upgrading to energy-efficient T5 lights, replacing heating and air conditioning systems, installing new variable frequency drive air compressors, motion sensors and more. These capital investments yielded four million kilowatt-hours in energy savings and resulted in thousands of dollars in cost savings that they will now see year over year.

What's more, it helped deliver broader benefits to the organization by encouraging a culture of conservation among staff and promoting more sustainable business practices. Valiant's procurement policies now include a requirement to look for energy-efficient options wherever possible.

Whether it's a lighting upgrade, motor and heating installations or new control systems, incorporating energy efficiency into your operations delivers benefits that reach far beyond your energy bill.

A growing number of industrial customers are also optimizing their operations and controlling their energy costs through conservation programs like the Industrial Accelerator Program, or IAP. The IAP offers a range of financial incentives that support energy-efficient capital investments.

In Sarnia, Arlanxeo Canada Inc., for example, develops and manufactures synthetic high-performance rubber for a range of industries, including automotive, construction and energy production.

Through the IAP, Arlanxeo has conducted a series of lighting upgrades and LED conversions at its facility. In addition, it has commissioned detailed engineering studies to look at its compressed air system, steam turbine and cooling tower pumps to identify measures that will generate electricity savings. Once implemented, these combined measures could save more than 6,000 MWh at its facilities, which translates into material costs savings.

The IAP encourages investment in innovative process changes and equipment retrofits to reduce electricity consumption on the provincial system and to help companies like Arlanxeo

become more competitive by positively impacting their bottom line.

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 businesses of all sizes to 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.

In Guelph, Reid's Heritage Homes has built five net-zero homes, which were the first in Canada to meet new net-zero home standards and include air source heat pumps, solar panels and high-efficiency water heaters. Here in London, the West 5 development is Ontario's first sustainable, net-zero community with solar streetlights and parkades, EV charging stations, green roofs and more.

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 on them 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. With customers playing a more central role in the electricity system through the use of advanced energy technologies, such as self-generation, energy storage and others, LDCs are forming new partnerships to help navigate energy sector transformation, and to capture the value of the changing energy landscape and evolving innovation ecosystem.

London Hydro has been at the forefront of the Green Button initiative, which includes its Green Button Connect My Data pilots. Green Button Connect My Data lets households and businesses securely and automatically transfer their own data to applications of their choice.

Greater access to information through Green Button enables consumers to better understand their energy use information to make decisions, such as reducing or shifting their energy use or retrofitting their home or business to improve its energy efficiency.

Innovative LDCs are leveraging Green Button to maximize investments in their metering infrastructure, help their customers manage their consumption, and in turn, help support provincial climate change and conservation targets. For LDCs like London Hydro, Green Button is enabling them to offer new programs and services to their customers.

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 or IAP 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**

The IESO has 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.

For example, last month we launched a public engagement initiative focused on ways to leverage the energy consumption data held within the Meter Data Management/Repository or MDM/R, which the IESO oversees in its capacity as Ontario's Smart Metering Entity. The MDM/R is one of the largest transaction systems in North America, adding up to 120 million records every day.

Working with stakeholders, we look forward to identifying opportunities to extract value from this data, while ensuring that all applicable privacy and confidentiality requirements are met. You can find more information about this on the stakeholder engagement section of our website.

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 want to work with you 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 will ensue over the course of the day and to working with you to identify practical, cost-effective solutions that work for Southwestern Ontario.

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