

**Independent Electricity System Operator (IESO)
Southwest Ontario Regional Electricity Forum
Meeting Minutes
November 23, 2017
London, ON**

Introductory Remarks

Opening remarks were provided by Amanda Flude, Senior Advisor of Regional and Community Engagement, IESO, as the emcee for the day, Chuck Farmer, Director, Stakeholder and Public Affairs, on behalf of the IESO, and David Mayberry, County Warden, Oxford County and Mayor of Southwest Oxford, representing the community.

Amanda Flude provided words of welcome and outlined the agenda for the day. Chuck Farmer said regional forums are an opportunity for the IESO to answer questions and create a two-way flow of communication with the community. He invited participants to enjoy the day, engage in dialogue, challenge the conversation, and ask questions. He stated that the IESO's purpose is to provide knowledge and insight into the electricity sector, and to listen and gain insight into communities. David Mayberry also encouraged communication and the sharing of ideas for the day ahead, adding that power affects the economy of every community, and where those communities are going in the future.

The Evolving Provincial Electricity System

Ontario's Evolving Electricity Sector: Provincial Keynote Address delivered by Leonard Kula, Vice President, Planning, Acquisition and Operations & Chief Operating Officer, IESO

The past 10 years have seen electricity shift from a centralized generation and delivery model with a few key players, to a decentralized system where consumers and communities seek greater self-sufficiency and engagement in decisions.

Many provincial conservation programs— Feed-in Tariff (FIT) and microFIT, Green Button, Save on Energy, Industrial Accelerator— are helping consumers to take control of their energy use and costs. Support from the Ministry of Energy is helping First Nation communities to develop their own community energy plans.

Mr. Kula highlighted the IESO's Market Renewal project that is preparing Ontario's electricity sector for tomorrow. The IESO is working toward greater transparency and more effective outcomes in the way that it schedules energy and procures resources. The IESO encourages two-way engagement with consumers, believing that reliability is ensured through discussions at the local level. He invited participants to continue the conversation to find practical, cost-effective solutions that work for Southwestern Ontario.

Ontario's Long-Term Energy Plan and the IESO's Implementation Plan, presented by Samir Adkar, Manager, Network and Microgrid Policy, Ministry of Energy, and Chuck Farmer, Director, Stakeholder and Public Affairs, IESO

Samir Adkar shared highlights of the newly released Long-Term Energy Plan (LTEP), which sets the policy framework for Ontario's energy sector with a 20 year outlook.

The LTEP is available on the Ministry of Energy's website; and key themes include:

- Consumer focus
- First Nations and Métis leadership and capacity support
- Innovation
- Conservation and energy efficiency
- Challenge of climate change

Chuck Farmer said the IESO is tasked through the LTEP with preparing an implementation plan with key milestones and outcomes by January 31, 2018 to the Minister of Energy that addresses the following nine directives:

- Options for energy support programs to First Nations and Métis
- Options to improve conservation programs, and access, for First Nations and Métis
- Renewable distributed generation projects
- Ways to mitigate barriers for energy storage
- Options for pilot projects to evaluate the use of electricity to create hydrogen
- Develop a formal transparent bulk system planning process
- Develop a competitive transmission procurement process
- Review of regional planning process
- Review technical criteria to assess customer reliability

Once the initial proposed implementation plan is approved by the Ministry of Energy, the IESO will move into the next phase of engagement of how it will implement the initiatives outlined in the LTEP. More information will be provided in the IESO weekly Bulletin and on the IESO's LTEP Engagement webpage.

The Power to Connect: Advancing Customer-Driven Solutions, presented by Vinay Sharma, Chair, Electricity Distributors Association (EDA), and President & CEO, London Hydro

Vinay Sharma outlined how customers today are major drivers of change in the electricity sector.

The EDA represents 95% of Local Distribution Companies (LDCs), and because LDCs are close to customers, their input is key in making large-scale planning decisions. Local utilities are helping customers to manage usage and undertake conservation activities. Along with opportunities, distributors also face challenges and are looking for customer-centric solutions and ways to break down barriers to positively shape the future electricity landscape. The EDA advocates for regulatory flexibility for local utilities to pursue innovative initiatives, and to work together with the IESO and the OEB to address barriers.

The EDA's latest vision paper, *The Power to Connect*, advances customer-driven solutions and opportunities for all in the electric power industry to connect small-scale generation, storage technology, and distributed energy resources (DER). With integration, consumers can enjoy the same outcomes as large producers. According to the EDA, core challenges include consistent and fair rules and provisions for DER assets, distribution planning and rate basing, and jurisdictional roles and responsibilities. Also challenging is the organization and structure of LDCs, and efficient prices and rate design.

Planning for Today and Tomorrow: Panel Discussion

Panel Moderator: Chuck Farmer, Director, Stakeholder and Public Affairs, IESO

Panelists: Nicola Presutti, Senior Manager, Control Room Operations, IESO

Bob Chow, Director, Transmission Integration, IESO
Greig Cameron, Vice President, Engineering & IT, Kitchener-Wilmot Hydro
Robert Reinmuller, Director, System Planning, Hydro One Networks

Chuck Farmer introduced the panelists, and the panel discussed how to navigate uncertainty at the provincial and local level, and outlined planning strategies and engagement with the community.

Nicola Presutti described electricity operations from the perspective of the provincial electricity grid control room. Day-to-day operations are always bouncing from supply to demand, and the system has vulnerabilities. Managing the system requires minute-to-minute monitoring of flows to catch disturbances quickly and to respond quickly. Southern Ontario is well-connected and fuel diverse, so it is in a good position to deal with contingencies; the bulk of which are related to weather. The system has the right tools in place to operate in real time.

Bob Chow said that electricity planning in the current sector is as interesting as it gets and requires more than just planning using transmission wires. Bulk-system planning focuses on transmission adequacies, congestion, system efficiency, and supply and demand forecasts at the provincial level. Regional planning has become prominent in the last five years or so as the interchange between bulk and local planning creates both challenges and opportunities in the distribution network. Future planning considerations include large load centres, major generation facilities, large industrial and agricultural customers, tie points with New York and Michigan, and local interest in exploring greater community-based energy solutions.

Greig Cameron said Kitchener-Wilmot Hydro, the ninth-largest LDC in the province, is expecting a 25% growth in electrical energy needs in the next 30 years. Smart grid investment will help with planning, implementing best-in-class information systems, and encouraging local partnerships.

Local planning issues and trends that the utility has identified include the current centralized generation and delivery system moving to a more decentralized system, which will require adaptation and integration. Reliability will become more essential in the area as Kitchener-Wilmot is a growing centre for IT-centered companies, and deciding whether to put wires overhead or underground and the area intensifies and local distribution corridors must grow to support that. The 2017 LTEP will also affect the local business model. Energy disruptors means that additional integration and safeguards will be necessary for microgrids and energy storage coupled with distributed energy resources (DER). Mr. Cameron said that it is necessary to examine the new transformer distribution system and how it affects the region, city, and township when capacity planning to meet demand

The new electrification of the transportation systems, including electric vehicles, charging stations, and the new light rapid transit system, will be important parts of the Climate Change Action Plan. According to Mr. Cameron, as always, coping with extreme weather events will continue to be part of the planning process.

Robert Reinmuller said his experience in the sector has allowed him to see the entire gamut of power issues over time. The goals of Hydro One are to align with the LTEP and the OEB's vision to engage with customers, support innovation, and adapt to the changing energy landscape. Hydro One will continue to work with the IESO in regional engagement, as it works to keep assets sustainable and operational. There are many new projects on the horizon, and working together to modernize the solutions will improve reliability in Ontario. According to Mr. Reinmuller, to be successful, the industry should no longer work in silos.

The Local Perspective

The Local Evolving Electricity System: Local Keynote Address, delivered by Ray Tracey, President & CEO, Essex Power Corporation

Ray Tracey said that for LDCs, customers, and stakeholders, the LTEP offers nothing but opportunity. Having multiple systems can make for multiple problems, and accurate answers are needed more quickly. There used to be between nine and 12 delivery points. In the future there will be thousands, and they will need to be managed. It will be essential to develop a comprehensive management system that can be used by all LDCs, and that will provide the data necessary for making future decisions.

One solution is to develop a single dashboard to centralize data from the several sources that are currently used to monitor the system. This sort of platform can drive the technology of tomorrow. Technical engagement is required, and individual LDCs need to collaborate with colleagues to help build solutions to benefit decision making for LDCs and their customers.

Data is valuable not only for LDCs; the IESO and customers need information, too. The data needs to be simplified. Now the system is capable of reads every 15 minutes, but eventually there will be five-minute reads. This vast amount of incoming data must be managed, and the best option is a system that is developed with the input and cooperation of the many stakeholders and LDCs, so it will benefit all. According to Mr. Tracey, innovation creates opportunity, but it is collaboration that delivers results

Local Spotlight: Oxford County, presented by David Mayberry, County Warden, Oxford County

David Mayberry spoke to strong communities needing a healthy environment, and he has a vision of a sustainable future for Oxford County. Over an 18-month period, a community sustainability plan was created to guide Oxford County to 100% renewable energy by 2050. The county built a net-zero waste administration building and purchased two hybrid ambulances (the first in Canada), and two compressed natural gas snowplows. The expected reduction in fuel consumption is 20%, with the investment being lifetime neutral. The county also created an electric vehicle charging station master plan.

Mr. Mayberry said these are only small steps, adding that Oxford County can and will do more. Gathering and utilizing accurate and timely data is crucial to future changes. The challenge Mr. Mayberry presented to IESO is to accept the nature of evolution and revision and to recast itself as IESO 2.0: the Integrating Energy Supplier of Ontario. According to Mr. Mayberry, adapting to change is a crucial element to communities, economy, and environment being able to thrive.

Engagement at the Local Level: Panel Discussion

Panel Moderator: Rob Doyle, Section Head, Customer and Stakeholder Relations, IESO

Panelists: Jamie Skimming, Manager, Air Quality, City of London

Paul Martin, Director, Business Operations, Western University

Kithio Mwanzia, President and CEO, Guelph Chamber of Commerce

Rob Doyle introduced the panel, and panelists discussed opportunities for engagement and its challenges, offering suggestions and strategies that had worked for their constituents and in their communities.

Jamie Skimming said the city's first principle is not its plan for the community, but the community's plan for the city. The city controls only 5% of the energy used; institutions and people control the rest. A city priority is to keep more energy dollars in the community and to keep on track with provincial greenhouse gas (GHG) reduction targets. The City of London must ensure that the things the city tries to do are doable, achievable, and supported by city residents. Attending popular local events to interact with citizens is one way city staff encourage engagement and interest in citizens who enjoy comparing their power consumption to that of their neighbours and with other parts of the city.

Paul Martin spoke about the university's plan to be a zero-energy campus by 2050. All universities and colleges can find ways to help the province reduce energy and encourage research to find solutions. The 6,000 new students who arrive at Western every year attend information sessions for recycling and energy conservation during orientation week. During the year, the residences compete to see which residence can save the most energy in a given period. Mr. Martin said the students learn there is a cost to energy, and it is hoped that they continue to be energy-aware citizens when they graduate.

Kithio Mwanzia explained how the Chamber of Commerce has sought out energy champions from a wide spectrum of industry, institutions, and agriculture. These energy champions are encouraged to network and share business cases with others. Learning from the experiences of other businesses builds trust and encourages change. Businesses see how they can do better if they manage their energy consumption. Since energy is an important business issue, the chamber raises it regularly. Mr. Mwanzia's advice for LDCs is to ensure that content is well curated and accessible on their websites. Businesses often face information overload, so making sure that the information they can access is relevant and delivered by the right messenger—one who has gone through the process, one of their peers – is very helpful and effective

Forum Wrap-Up, delivered by Margaret Kelch, Director, IESO Board of Directors

Margaret Kelch summarized key observations and themes that emerged throughout the forum and during a discussion of next steps. Consumers are more engaged than ever. Public expectations are higher than in the past, and consumers are sensitive to the price of power. There are going to be dramatic changes as market renewal continues, and communities are proactively seeking ways to be self-sufficient.

The IESO is committed to increasing stakeholder engagement, to offering future online and in-person opportunities for engagement, and to delivering the material that is important to the participants and their constituents.