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RE: ERO Number: 019-6647
IESO Pathways to Decarbonization Study
Submitted by Stephen Vetsis on behalf of Elexicon Energy.

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I. OVERVIEW

Elexicon Energy (Elexicon) is pleased to offer our response to ERO Posting 019-6647 regarding the IESO Pathways to Decarbonization Report (P2D). Everyday Elexicon delivers safe, reliable, and affordable electricity to over 174,000 homes and businesses in Ajax, Belleville, Brock, Clarington, Gravenhurst, Pickering, Port Hope, Scugog, Uxbridge and Whitby.

With our close relationship to customers of all sizes, Elexicon understands the importance of electricity to the future prosperity of Ontario. With this perspective, we respectfully submit the following panoptic observations:

All pathways to decarbonization are enabled and made more efficient through investments in Ontario's distribution network.

Investments in distribution provide the only cost-effective short-, medium- and long-term benefits on the path to decarbonization.

Valuable. Impactful. Needs-Based. These are the hallmarks of any true no regret action. These are the features of investment in Ontario's distribution grid.

The IESO study "no-regret" recommendations reflect the scope and magnitude of the efforts needed to support a successful energy transition. The pathway study focuses on a system that is able to manage demand peaks that are almost three times as large as they are today. In addition to the current system and committed procurements, the pathways study calls for 69,000 megawatts of non-emitting supply and 5,000 megawatts of conservation measures, at an estimated capital cost of $375 billion to $425 billion. Elexicon renews its commitment to be an enabler in securing the necessary supply to address future capacity needs and urges all other local utilities to answer the call.

The construction of transmission lines, nuclear refurbishment, and innovation-based investments are all necessary steps towards decarbonization. However, these steps involve lengthy processes with lead times that sometimes span decades. Investing in the modernization of the distribution system is an opportunity to enable the short- and medium-term solutions provided by our distribution network. Distribution is an underappreciated, no-regret decision that is right in front of us and will become a potential constraint if under-invested. It has the potential to affect our load and deliverability services. There is untapped potential in Ontario's strong distribution network, and when unlocked, it will help the province achieve its goals.

To decarbonize the grid, every energy system stakeholder in Ontario has a role to play. The pathway to decarbonization necessitates a coordinated approach that leverages our collective strengths to solve the unprecedented challenges ahead. Ontarians are looking to the government for decisive leadership, the regulator for oversight, planning agents for measured advice, and to their local energy providers for innovative problem solving and execution.

II. DISTRIBUTION MODERNIZATION IS AN ENABLER FOR FUTURE PROGRAMS

A modern distribution grid is the key to unlock the value of investments at the bulk and local level. Without a modern grid, Ontario risks stranding billions of dollars in value through operability constraints. The features of a modern grid include:

- Quicker restoration times through a self-healing grid.
- Automation and remote switching.
- Greater data collection and processing which drives forward looking asset replacement and upgrades.
- More effective integration for demand response programs.

By modernizing the distribution grid and enabling more real-time/active management of flows on the distribution system we can optimize the utilization of capacity in the electricity system to reduce the need for making additional investment which should lead to lower overall system costs. Distribution modernization can also help reduce system losses and reduce consumption through technologies such as Volt/Var Optimization (VVO) which are enabled through grid modernization.

There is a need to make sure that distributors are given regulatory approvals to make investments in their distribution systems to connect and integrate DERs. Modernizing the grid is essential for maximizing the potential of DERs for regional opportunities that support or directly benefit regionally and the bulk system. These results won't materialize in the timeframes anticipated by customers, innovators, and policymakers without an urgent and persistent commitment to modernizing the technical, operational, and administrative capacities of local utilities.

The utility of the future must be able to invest in assets, technology, and service-delivery options in advance of the emergence of an acute need. Proactive investment is the only way to prevent the types of operational bottlenecks that threaten to derail us off the pathway to decarbonization.

Recommendations

Ensure that regulatory frameworks and policy direction enable proactive investment in modernization of the distribution system to facilitate more efficient delivery of electricity

III. POTENTIAL OF DISTRIBUTED ENERGY RESOURCES (DER)

Utility companies must be given the freedom to develop innovative services and offer options for grid operation. This can be accomplished by a Distribution System Operator (DSO) model, where the technology is ownership agnostic.

It has been demonstrated that specific assets at the distribution level can provide value beyond capacity and energy at the bulk and local levels by allowing energy to be recirculated back onto the grid to perform distribution system activities.

Bulk grid investment will still play a significant role in Ontario's electricity system. However, communities have the potential to produce and distribute their own electricity through the use of targeted asset deployments including rooftop solar and distribution connected storage, which lessens their reliance on the national electricity grid.

The grid and electricity markets will gain a lot from the growth of distributed energy resources (DERs). Enabling DERs will benefit the environment, customers, and the electricity grid, according to the IESO. Customers have more control by using DERs to supply some, or all, of the energy needed for a home, facility, or business. This also results in lower customer power rates because there is less reliance on the provincial electricity grid. The need for new or enhanced transmission lines is decreased (or eliminated) as DERs can be located close to urban centers, which decreases system costs.

In Ontario, two-way energy flow enhances grid management in a way that has never been done before. This has the potential to increase system efficiency by more than double, which is a necessary condition for a decarbonized power system.

The IESO conducted a DER Potential Study in order to guide Ontario's future strategy for permitting DERs. The study's main goals were to identify the types and amounts of DERs that already exist and can be anticipated to do so in Ontario's grid throughout the course of a 10-year period (from 2023 to 2032). It is also important to determine whether these resources have the capacity to offer wholesale electricity services. The report's goal of identifying the DER potential in Ontario was accomplished, and it has shown that a variety of DERs are both technically possible and commercially viable over the next ten years. It also admits that LDCs and transmitters will need to develop DER management infrastructure and allocate money to it.

To maximize distribution value, an anticipated DER capacity/energy target is necessary. Despite the fact there are still some concerns with policy and regulation, having a target will encourage organizations to address them more quickly and provide a framework that will enable them to meet the defined goal. DERs will be useful as a short- and medium-term tool in the energy transition since they will assist and maintain grid dependability while attempting to decarbonize it, all the while more powerful generation sources are being created.

As we begin to adopt DER integration, policymakers should set out a clearly defined implementation process. The OEB's Framework for Energy Innovation can be used as a launch pad, with consideration for the evolving role of the utility and the value it can provide in assisting the IESO in managing these locally sited resources to ensure reliability of supply.

To enable the market to take hold of renewable generation, in contrast to direct subsidies/ incentives, we must streamline the regulatory and approval processes for DER integration. Each type of generation has a distinct set of characteristics, which means that not all types of generation can be replaced by DERs. It is important to understand what types of generation will realize efficiencies and how those resources should be situated. Guiding the market through implementation, while avoiding rigid centralized planning, strikes the right balance to deliver the most reliable and cost-effective DER grid to begin forming.

Recommendations

Expedite the OEB's Framework for Energy Innovation.
Create an opt-in model for distributors to assist the IESO in managing DERs to ensure that value is provided at the local and bulk level and benefits are maximized.

IV. CUSTOMERS ARE THE PRIORITY

Electricity prices will be impacted by electrification. As ageing equipment is replaced and new infrastructure is constructed, customers may begin to see an increase in their electricity rates. This is true in an electrified environment due to the unprecedented rise in demand and consumption. To ensure that infrastructure is ready in time to meet customer expectations, the rate of this rise will necessitate proactive investment.

Elexicon prides itself on always putting the customer first. We believe this is a driver for our successful merger of two separate utilities in 2019. It is the customer that will bear the cost of any new investment, and therefore it is incumbent upon decision-makers to drive policy according to customer preferences.

As a sector, we must effectively articulate how investing in a decarbonized system has a direct impact on growing electricity prices. Being open and honest about the risks, development goals, and long-term value proposition is equally crucial.

V. NO REGRET: INVEST IN THE POWER OF DISTRIBUTION

Investment in distribution modernization is a prerequisite to decarbonization. Elexicon respectfully submits the following recommendations to harness the power of distribution:

1) Establish a working group to draft an addendum chapter to the P2D study regarding investments into Ontario's distribution network.

2) Embrace, develop and expedite a made-in-Ontario distribution system operator framework that enables distributors to leverage and manage local assets that provide services to the bulk system and maximizes the benefits of DERs.

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