Stakeholder Feedback and IESO Response

2024 Annual Planning Outlook – April 23, 2024

Following the information session, the IESO received written feedback submissions from:

Association of Power Producers of Ontario (APPro)
Capital Power
City of Ottawa
Electricity Distributors Association (EDA)
Enbridge Gas Inc.
Ontario Rivers Alliance (ORA)
Ontario Power Generation (OPG)
Power Workers' Union (PWU)

The presentation materials and stakeholder feedback submissions have been posted on the IESO stakeholder engagement webpage for this engagement. Please reference the material for specific feedback as the below information provides excerpts and/or a summary only.

Demand Forecasting and Scenario Planning

Stakeholder Feedback	IESO Response
Stakeholders emphasize the need for enhanced demand forecasting and scenario planning. They stated that relying on a limited set of scenarios is insufficient given the uncertainty of demand growth due to electrification, industrial expansion, and emerging technologies. There is a call for broader scenario analyses that consider both faster and slower demand growth, as well as a variety of potential future risks and outcomes. Some also stress the importance of refining demand forecasts to	Thank you for the feedback. The IESO recognizes the uncertainties associated with electrification and economic growth and continues to develop and support various demand scenarios developments to inform power system planning in Ontario. Working closely with local distributors, the IESO also leverages the Regional Planning Process and associated forecasts to integrate and plan for various local growth scenarios, including local energy plans where applicable.

Stakeholder Feedback	IESO Response
better integrate distribution-level dynamics and local energy plans.	

Energy Transition and Clean Energy Resources

Stakeholder Feedback	IESO Response
Stakeholders advocate for a stronger focus on transitioning to clean energy sources, highlighting the need to bring these resources online sooner rather than later. There are calls for proactive clean energy procurement to mitigate greenhouse gas (GHG) emissions, with some also emphasizing the role of Distributed Energy Resources (DERs) in supporting the transition. Concerns are raised about the vulnerabilities of hydropower due to climate change.	The IESO recognizes that a reliable, affordable and sustainable electricity system provides a foundation for future economic development and economy-wide emissions reductions. The Minister of Energy and Electrification has directed the IESO to ensure that all available sources of generation are eligible to compete in the IESO's Long-Term 2 Request for Proposal (LT2 RFP), which includes non-emitting resources. Ontario's future energy needs will be met through a combination of biomass, natural gas, hydroelectric, nuclear and other renewable sources, with the LT2 RFP designed to ensure that the electricity system has the infrastructure it needs to support the province's growth and mitigate development risks associated with any particular technology type. The IESO recognizes the role that DERs will play in supporting the energy transition. In the coming months, the IESO plans to engage the sector on the Enabling Resources Program (ERP), including priorities for which types of energy resources ERP will focus on. In addition, the Transmission Distribution Coordination Working Group continues work towards its five deliverable reports. DERs are also routinely considered as non-wires alternatives in regional planning.

Reliability and Baseload Security

Stakeholder Feedback	IESO Response
Ensuring long-term system reliability is a key concern for some stakeholders, who emphasize the need to secure baseload resources, particularly nuclear and hydroelectric power, to balance intermittent renewable sources like wind and solar. There are warnings that current procurement strategies may not adequately address future baseload needs, potentially leading to supply shortages. The reliability of hydropower in the face of climate change is also questioned, with some advocating against new hydropower projects. Further discussion is requested on operability/essential reliability services and the planned approach to meet future requirements for these services.	Ontario's electricity system is well positioned to support growing demand for electricity, and supply procurements are already underway to maintain reliability, affordability and sustainability in both the near and longer terms. The *Powering Ontario's Growth* plan outlined plans for potential new nuclear generation, and support for optimizing electricity generation from existing hydroelectric sites and potential development of future hydroelectric generation projects. Ontario's diverse supply mix helps to mitigate the risks inherent in each technology and fuel type and helps the power system to withstand a wide variety of conditions, including short-term extreme weather, mid-term environmental extremes and fuel delivery challenges. Procuring a combination of resource types through the IESO's Resource Adequacy Framework will help maintain this diversity. The 2025 APO will provide an updated assessment of regulation needs and the IESO is working towards providing assessments of essential reliability service needs in subsequent APOs.

Transmission and Infrastructure Planning

Stakeholder Feedback	IESO Response
Stakeholders emphasize the need for strategic transmission planning to support new generation assets and accommodate electrification. Stakeholders argue that transmission expansion should be optimized with generation siting, ensuring coordination between the two. Additionally, greater engagement with municipalities and prospective generators is seen as essential to ensuring a robust infrastructure network.	The IESO agrees with the feedback provided and is working to better connect generation procurement activities with on-going bulk and regional planning, as well as the APO. The IESO will continue to be proactive in engaging municipalities and prospective generators, and will look for opportunities to bring them together. While effort is needed to move to more integrated planning between transmission and resources, the ongoing South and Central Bulk Study will consider a number of future resource scenarios when assessing

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	transmission needed over the medium and long-term to cost-effectively meet system needs.

Risk Management and Uncertainties

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Managing risks and uncertainties is a recurring theme, with concerns raised over project delays, regulatory hurdles, and uncertainties in demand growth, particularly in relation to industrial expansion and electrification. Some stakeholders emphasize the need for a risk-informed approach to resource adequacy planning, highlighting the consequences of underestimating demand growth.	The IESO recognizes the importance of incorporating potential risks and uncertainties in its resource adequacy assessments to ensure that reliability needs are addressed in a timely manner, while balancing factors that could drive oversupply or inefficient outcomes. A number of risks and uncertainties could have an impact on Ontario's reliability needs, ranging from the amount of electricity demand to supply constraints. The 2024 APO included a description of uncertainties related to demand, supply, policy and regulations, and climate change and resiliency. The potential impacts of some of these risks were factored into the APO's Integrated Reliability Needs assessment, which informed the development of the set of planned actions to meet future needs. The 2025 APO will follow this same approach to incorporate potential risks and uncertainties that could impact future needs.

Role of Natural Gas

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Some participants stress the continuing role of natural gas in maintaining grid reliability during the energy transition. While acknowledging the long-term goal of transitioning to non-emitting generation, they argue that natural gas will be crucial for balancing intermittent renewables and ensuring reliability and affordability until non-emitting technologies can fully replace gas generation.	The IESO's 2022 *Pathways to Decarbonization* report noted the continuous, flexible energy that Ontario's natural gas fleet provides to the electricity system. It also identified that phasing gas generation out will require ingenuity and the implementation of new technologies to reorient our current system, as there is currently no like-for-like replacement for natural gas generation. While Ontario's electricity system is evolving and the IESO is actively integrating new

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	technologies that can help to meet long-term needs, natural gas will be needed until reliable replacements have been identified, put into service, and have demonstrated their capability.

Environmental and GHG Emissions Considerations

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Reducing greenhouse gas emissions remains a priority for many stakeholders, who advocate for clear emissions forecasting in future planning efforts and stress the need to integrate GHG reduction strategies. Concerns are raised about the environmental impact of hydropower, particularly methane emissions from reservoirs, and the risk of double-counting emissions reductions in decarbonization efforts.	The IESO acknowledges that reducing greenhouse gas emissions is an important stakeholder priority. The IESO will endeavour to continue providing forecast electricity sector greenhouse gas emissions through reports such as the APO and/or Pathways to Decarbonization study. Note that actual emissions depend on future procurement outcomes and policy direction. Any estimated emissions reductions in the broader economy will also be accompanied by details on assumptions and methodologies used by the IESO.

Distributed Energy Resources (DERs) and Local Energy Solutions

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Some groups highlight the importance of Distributed Energy Resources (DERs) in meeting local and regional electricity needs, arguing that DERs can alleviate pressure on the bulk system and reduce the need for costly transmission investments. Better coordination between local distribution companies, the system operator, and municipalities is seen as essential to fully unlocking the potential of DERs in the energy transition.	The IESO recognizes that coordination between local distribution companies, the system operator, and municipalities is essential to unlock the potential of DERs. The IESO is currently working with sector participants to clearly articulate roles and responsibilities under different Distribution System Operator models, and the Transmission Distribution Coordination Working Group continues to work towards its five deliverable reports. The IESO also continues to work with local distribution companies and transmitters to identify non-wires alternatives through Ontario's Regional Planning Process.

Future Pricing

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Although pricing is not a dominant theme, some stakeholders recommend including pricing information in future reports, as it significantly impacts demand projections.	The IESO recognizes that stakeholders rely on information from the APO to inform their own analyses and investment decisions. Past APOs have included information on marginal cost forecasts, historical Hourly Ontario Energy Prices, carbon pricing, and fuel costs. The IESO will continue to publish relevant cost information, either as part of the APO or other reports, as appropriate.

Stakeholder Engagement and Transparency

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There is a call for greater transparency and stakeholder engagement. Stakeholders suggest clearer communication on key assumptions, procurement timelines, and transmission priorities, along with increased collaboration with municipalities on energy planning. They also ask for more detailed information on demand and capacity forecasts to aid in decision-making.	The IESO recognizes the need for transparency and consistent communication of planning information to the sector. The APO will continue to be published alongside multiple modules and methodology documents to ensure stakeholders have access to underlying data. There will also be an engagement session in Q4 2024 to present an early overview of the 2025 APO demand forecast and growth drivers. For more on procurement timelines, refer to the IESO's Resource Acquisition and Contracts webpage. For more on transmission planning, refer to the Regional Planning webpage.