Stakeholder Feedback and IESO Response

Evolving IESO Planning Products (APO/AAR)

Following the October 20, 2023, Evolving IESO Planning Products, the IESO invited stakeholders to provide comments and feedback on the materials presented.

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.

Existing IESO Reports

1. What sections of the APO and AAR are most helpful and how do you use this information?

Feedback	IESO Response
Stakeholders had similar feedback that all sections of the AAR and APO are helpful for a variety of reasons, including but not limited to: • Assessing system reliability • Understanding policy implications • Understanding market shifts through the energy transition • Informing planning and investment decisions, risks and opportunities • Development and validation of stakeholders' own analytics and models	The IESO is pleased to hear that both the APO and AAR have achieved their desired intent of presenting identified future system needs and acquisition targets and the competitive mechanisms to meet them, considering various risks and uncertainties. Both the APO and AAR were developed to help inform stakeholders when making risk-based investment decisions. The APO and AAR help support the province's growing electricity system and lay the foundation for a reliable and affordable energy future in Ontario.
The demand forecast and drivers, adequacy outlook, operability needs, bulk and regional transmission needs, procurement mechanisms and timeframes, and planned actions sections were specified in particular.	The IESO commits to continuing to provide this information to stakeholders in future planning products and appreciates the confirmation that its efforts to collect, analyze and present this information is well received by industry and stakeholders. Further, we are pleased to hear the

Feedback	IESO Response
Consistency, clarity, and transparency were also cited by most stakeholders as important characteristics for both the APO and AAR reports, and that continuation and improvement of these characteristics are an ongoing requirement.	recorded public webinars are helpful and intend to continue them.

2. Where do you see redundancy or overlap in these existing products?

Feedback	IESO Response
Feedback broadly indicated that stakeholders felt most sections of the APO and AAR were independently valuable, and that there was little overlap between the two products. That said, there is one opportunity for streamlining a section related to Reliability and Resiliency that appears in both products.	Future IESO planning products based on material found in the APO and AAR will be combined to produce a comprehensive product that identifies the demand forecast, system needs, and the set of planned actions to meet those needs. The IESO expects this to reduce the redundancies that occurred with separate publications of the APO and AAR.

3. How can the IESO enhance and evolve the APO and the AAR?

Feedback	IESO Response
The following feedback has been categorized as follows: General: • Scenario analyses on possible futures that are meaningful to understand the energy transition • Enhance and build out the planned actions section from procurements Demand and Supply: • Changes in capacity contributions of wind and solar from greater renewable penetration • The capacity market • Scenario analyses that better describe demand growth drivers and assumptions	Thank you for the feedback. The IESO will continue to review the details of these suggestions and consider ways to incorporate this information into future planning products. Certain topics may be better suited to "one-offs" or unique engagement streams. However, when consistent and regular reporting of that information will help transparently shape the planning outlook, the IESO will include that information and ensure clear assumptions on use of the data are presented. The IESO encourages continued dialogue on ideas for improvement provided by stakeholders as the Evolution of Planning Products engagement continues in Q1 2024, and look forward to hearing about prioritization of these requests.

Feedback	IESO Response
• Different ways to communicate needs around baseload, intermediate and peak/reserve energy and capacity • Impacts of distributed energy resources and energy efficiency on demand, and their contribution to the supply outlook • Conservation and demand management's role in procurements • Clearer operating details and assumptions around individual generator units Transmission: • Interties • Transmission rights auction • Risk based assessments on demand and supply as they pertain to regional planning • Better alignment between regional plans and the APO Outcomes and Other Considerations: • Emissions projections • Electricity price forecasting • Clean energy credit volume and pricing • Risk assessed implications of range of future costs to ratepayers	

Future Reporting

1. What frequency and/or time of year is information required to help you make informed and timely investment decisions with respect to existing or new assets?

Feedback	IESO Response
Stakeholders agreed that regular consistent reporting was an important characteristic of any planning products issued by the IESO. There was no consensus or time of year that appealed to a majority of stakeholders. The desire for frequency of release varied from twice a year, to annually, to once every two years with the greatest number of responses leaning towards annually. Consistent cadence and regularity of reporting were identified to be of higher importance than the report format. Stakeholders suggested that products could be provided throughout the year as an update to incorporate the impacts of drivers not considered in the initial release or used to take deeper dives into certain topics. Stakeholders indicated that timely and regular reporting helps participants stay abreast of developments to Ontario's electricity system and can help to align with company investment/decision-making cycles.	The IESO recognizes and appreciates the importance of a consistent publication schedule to communicate important information to the sector and will consider this for future provincial planning products as we seek to balance process consistency and the ability to respond to a rapidly-evolving energy sector.

2. What specific information is required to help you make decisions?

Feedback	IESO Response
Stakeholders indicated that the granularity of data available to them from the IESO and other parties was an important factor when responding to this question. Further to this, stakeholders wanted more raw data. Stakeholders expressed that granular information encourages participation in IESO markets and procurements and promotes bilateral negotiations between businesses. More granularity on regional growth, supply, and grid infrastructure was also encouraged, in order to	The IESO recognizes that stakeholders seek greater granularity (temporally and geographically) to better understand system needs and participate in IESO-led planning, procurement, and market processes. The IESO may not be the owner of or have access to all of this data, nor be able to share certain information due to confidentiality reasons. The IESO encourages for stakeholders to attend the Planning and Market Data Engagement the IESO launched in November of 2023. This engagement provide a prime opportunity to focus specifically on

Feedback	IESO Response
assess the impacts of energy efficiency and distributed energy resources. Some feedback emphasized the importance of information on current and future transmission constraints and assumptions, which are required to help make decisions on deliverability test issues for future projects. Specifically, stakeholders identified more granular transmission information, such as connection capacity or availability by zone, region, node, or substation. Similar feedback was received for information on demand forecasting, with suggestions for hourly demand profiles for individual end uses or select years. Stakeholders also requested historic hourly loading information by transmission station to help better understand system needs and trends. Stakeholders also expressed a desire to have better details on how analysis was conducted.	data availability and granularity beyond the broader engagement of the "evolution of planning products". This engagement can be found here and the next public session has yet to be scheduled in early 2024. For further information on where additional data may be available, please refer to Appendix A.

3. Do you prefer comprehensive planning reports or would tailored and succinct products released throughout the year better serve your needs? What is the value of each from your perspective?

Feedback	IESO Response
Stakeholders expressed a strong preference for one comprehensive planning document that presents assumptions, inputs and methodologies together, reducing potential confusion or inconsistencies. To provide updates on significant changes to assumptions or to prepare proponents for a procurement, stakeholders suggested that other ad-hoc, succinct products with specific purposes could be released at other times of the year. Overall, stakeholders seek an integrated plan that includes transmission and grid build-out	The IESO appreciates this feedback and will consider it for future provincial planning products. Recent APO publications have evolved to reflect this preference for a comprehensive report – for instance, the introduction of the transmission Schedule of Planning Activities in the 2022 APO. This will continue to be included in the upcoming APO anticipated for Q1 2024, as well as sections on operability and potential risks and uncertainties that may impact Ontario's system needs. Consistent with previous APOs, detailed modules and methodology documents will be released with the report.

Feedback	IESO Response
details, a more complete picture of future reliability needs and planned actions to meet those needs, and a discussion on operability, risks and uncertainties.	Furthermore, as the "evolution of planning products" engagement continues in 2024, stakeholder preference for a comprehensive report will help us shape how we prepare and present information to the sector.

General Comments

Engagement and Planning Process

Feedback	IESO Response
Stakeholders expressed their preference for public consultation. For instance, a desire for the opportunity to become more involved in the planning process by providing input and requesting information on forecast scenarios, as well as to propose solutions to reliability issues (e.g., non-wire solutions, procurement design). Stakeholders have also requested more participation from transmitters and local distribution companies (LDCs) to help provide more granular transmission level information and provide more details on DERs and effects of local CDM initiatives.	The IESO will continue to identify opportunities for further engagement to provide information and receive input from stakeholders. Historically, public webinars have been hosted annually to present an overview of each APO and AAR. These have been supplemented by other webinars, such as the 2022 APO Supply Scenario Planning Information Session, and the 2023 AAR session seeking input on the participation of existing resources. The 2022 Pathways to Decarbonization study offered stakeholder and community engagements to inform the body of the work. Other planning processes, such as regional planning, continue to provide multiple opportunities for stakeholder engagement (and include close participation with transmitters).

The Role of Gas

Feedback	IESO Response
Stakeholders indicated that the continued operation of gas plants would be a cost-effective option for the ratepayer until new non-emitting generation, with similar characteristics as natural gas generation, can be brought in-service.	Thank you for your feedback. Future planning products will continue to use data and market intelligence to identify system needs and the factors that influence them, and provide insights into what will be required to address these needs. These products will provide insight on resource adequacy needs, with consideration for the impact of policy direction (including the federal government's draft

Feedback	IESO Response
	Clean Electricity Regulations and the provincial government's response to the EETP "Ontario's Clean Energy Opportunity" report) in the development of the IESO's assumptions on the market exit of emitting resources.

Procurement Timelines

Feedback	IESO Response
Stakeholders indicated that the amount of time between deliverability test results to bid submission should be increased to no less than six months, to allow proponents sufficient time to engage with and inform municipalities, relevant stakeholders and communities, and to develop and enter into partnerships with Indigenous communities.	Feedback on procurement processes, timelines and design can be provided through the IESO's Long Term RFP engagement.

Appendix A

Data Currently Provided

Data	IESO Comments
New sections specific to interties, the capacity market, transmission rights auction, and CEC volume and price.	Information on the capacity auction and transmission rights auction is published outside of the APO and aligns with the timelines of the respective auctions, to provide the most up-to-date information to the electricity sector for participation in the auctions.
Electricity price forecasting, to assist with financial projections.	The IESO recognizes that there is future energy market risk with any acquisition mechanism. While the IESO does not have the capability, or access to, market participant bidding strategy to model potential future market outcomes, Shadow Prices are the best available proxy for future locational marginal prices. In addition, stakeholders can review the Market Renewal Program Market Rules and Market Manuals

Data	IESO Comments
	to determine their strategy for participating in the new market.
Individual unit specific information such as effective capacity in summer/winter and retirement dates.	This is reported by fuel type in the APO; unit-specific information will not be available due to confidentiality concerns. Known retirement dates are shared in the APO (e.g. Pickering NGS).
Frequency response, inertia, system security in combination with the congestion detail currently provided.	Previous AARs have included information on the essential reliability services critical to the reliable operation of the system, including ancillary services such as regulation. The upcoming APO includes a section on Operability needs and an assessment of the IESO's regulation needs over the next decade. In addition, this year's publication will include an Operability module that describes the necessary balancing services, including frequency response, inertia, regulation service, operating reserve and ramping capability. The need for essential reliability services is expected to grow through the energy transition; as the IESO performs assessments to identify needs and the mechanisms to acquire the reliability services required, this information will be communicated to stakeholders.
Forecast demand on an hourly basis (in certain years), at transformer station level detail (or small sub regions).	Sub-zonal or transformer station level forecast demand information is sometimes provided through Integrated Regional Resource Plans when local reliability needs have been identified.
Load growth data and factors influencing demand.	The 2024 APO will include a chapter on risks and uncertainties. This includes discussion on demand forecast drivers (e.g. economy, demographics, etc.).
Analysis of the capacity contribution of wind and solar as renewable generation penetration increases.	Summer and winter capacity contributions are provided by fuel type as part of the APO Supply Adequacy and Energy Outlook Module Data. The IESO recognizes the desire to accurately capture the declining marginal contribution of renewable resources to resource adequacy requirements. These contributions change dynamically in response to load and the supply mix. An industry standard approach to dynamic capacity contributions currently does not exist, but

Data	IESO Comments
	as progress is made on this challenge the IESO will incorporate best practices into its assessments.
Historical and forecasted hourly demand at sub-regional and substation levels	Integrated Regional Resource Plans (IRRPs) are a resource for more local information on reliability needs, planned infrastructure, and the impacts of non-wires alternatives. In the past, hourly forecast and historical demand have been provided through IRRPs at the sub-regional and substation levels to help planning participants understand needs. Moreover, various assumptions have been coordinated between the APO and IRRPs.