



JANUARY 26, 2021

Resource Adequacy Engagement

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Agenda

- Review stakeholder feedback following November 18, 2020 webinar
- Key insights from 2021 Annual Planning Outlook (APO)
- Confirm approved Resource Adequacy framework
- Discuss implementation of Resource Adequacy framework
- High-level work plan for 2021 and 2022 Capacity Auctions
- Stakeholder Feedback and Next Steps



Summary of Stakeholder Feedback

Stakeholder Feedback

- Stakeholder feedback was requested on:
 - Whether any key discussion areas proposed for the next phase of the Resource Adequacy engagement were missing or should be prioritized before others
- 13 written stakeholder feedback submissions were received
- After reviewing all feedback submissions, some common themes emerged which will be identified in the following slides with a corresponding IESO response
- Thank you to all stakeholders for providing feedback thus far

IESO Governance and Decision-Making

Stakeholder Feedback

- Stakeholders noted recent decisions by the IESO regarding resource acquisitions lacked sufficient transparency. Stakeholders emphasized the need for greater transparency and accountability in IESO governance and decision-making.

IESO Governance and Decision-Making (continued)

IESO Response

- IESO recognizes that stakeholders have consistently wanted additional transparency and further clarity around IESO decision making for resource acquisitions. These viewpoints continue to inform IESO activities, including the Resource Adequacy engagement. As further details are developed over the course of 2021, decision-making frameworks will be shared with stakeholders for feedback.

IESO Governance and Decision-Making (continued)

Stakeholder Feedback

- Stakeholders are seeking clarity on how an unsolicited proposals process will be integrated into IESO governance and decision-making for the Resource Adequacy framework

IESO Governance and Decision-Making (continued)

IESO Response

- The IESO occasionally reviews unsolicited electricity project proposals on behalf of the government and, like any government policy decision, will account for their impacts in its Resource Adequacy framework. The operationalization of the Resource Adequacy framework ensures that greater transparency and certainty is provided to proponents participating in Ontario's electricity sector. The IESO is aiming to provide more information on its role and its review process for unsolicited proposals in February.

Transition

Stakeholder Feedback

- Related to transparency, stakeholders noted the Transition discussion area as a priority and requested information on other resources like Lennox that the IESO may be considering offering transitional contractual arrangements to and the details on those potential arrangements
- Stakeholders recommended that resource adequacy mechanisms available to generators with expiring contracts, including the scope, structure, and design of RFPs/contracts, be addressed in 2021 to allow developers to make timely investment decisions

Transition (continued)

IESO Response

- The IESO's goal continues to be to increase the use of competitive mechanisms to secure needed resources and services and to fully implement the Resource Adequacy framework by the end of the decade.
- The approach for managing contracts that expire before this framework is fully developed and implemented will be discussed with stakeholders through this engagement as part of the transition discussion

Proposed Major Discussion Areas

Stakeholder Feedback

- Most stakeholders indicated general agreement that the major discussion areas would cover most topics that needed to be discussed however, various additions and modifications were suggested

IESO Response

- All stakeholder feedback continues to be considered as the details of the engagement and the major discussion areas are refined.

Prioritization of Proposed Major Discussion Areas

Stakeholder Feedback

- There was no consensus among stakeholders on whether certain major discussion areas should be prioritized before others. Some stakeholders believed the discussion areas were too interconnected to prioritize one before another, some believed the Transition discussion area to be a priority, and other opinions were provided.

IESO Response

- At this point, the IESO is still developing further engagement details and will keep stakeholders informed if there is any prioritization of topics

Resource Adequacy Timelines

Stakeholder Feedback

- Stakeholders requested greater detail on timelines for the Resource Adequacy engagement and mechanisms, noting that expediency was important as the mechanisms are developed and operationalized to provide clarity to the market and investors as soon as possible.

IESO Response

- The IESO expects to engage with stakeholders on a monthly basis for the foreseeable future. Further timeline information will be provided during the first half of 2021, as the detailed aspects of the Resource Adequacy framework are discussed with stakeholders.

Eligibility for Resource Adequacy Mechanisms

Stakeholder Feedback

- Stakeholders requested greater detail on eligibility and requirements for the Resource Adequacy mechanisms

IESO Response

- Further information will be provided, as the detailed aspects of the Resource Adequacy framework are discussed with stakeholders.

Tracking Previous Stakeholder Feedback (Sept. 2020)

Stakeholder Feedback

- Stakeholders proposed suggested modifications to Market Renewal Program (MRP) guiding principles and their use in the Resource Adequacy engagement, such as:
 - Certainty should be amended to ensure resource adequacy needs are met in a timely manner
 - Recognition of role of distribution-connected generation in resource adequacy
 - Include reference to outcomes for end-use customers
 - Preserve system reliability, fairness, technology agnosticism, commercial effectiveness, commercially reasonable investment

Tracking Previous Stakeholder Feedback (continued)

IESO Response

- Many of the suggestions are inherently captured in the breadth of the principles. For example, competition and efficiency encompass the concept of fairness and ensuring that all eligible resources can participate in the procurements.
- Furthermore, concepts such as reliability are inherent to IESO's role as Ontario's reliability coordinator
- The role of distribution-connected generation will be addressed within the framework
- Outcomes for end-use customers (i.e. achieving lower electricity costs) are captured in efficiency and competition

Tracking Previous Stakeholder Feedback (continued)

Stakeholder Feedback

- Stakeholders emphasized the need for a transparent approach to setting target capacity for mechanisms

IESO Response

- The IESO agrees with stakeholders on the need for transparency and has taken that into account in developing the approach for implementing the Resource Adequacy framework, as outlined in today's presentation

Tracking Previous Stakeholder Feedback (continued)

Stakeholder Feedback

- Importance of clear, transparent and timely planning information that factors in the role of programs

IESO Response

- The IESO remains committed to enhancing power system planning information – and we seek to constantly improve data, assumptions and models.
- As outlined in “Operationalizing the Framework” later in this presentation, programs will be factored into identifying the system needs to be addressed

Tracking Previous Stakeholder Feedback (continued)

Stakeholder Feedback

- The use of transmission or distribution infrastructure should be considered

IESO Response

- The IESO agrees that providing an integrated perspective is important and is working on ensuring this alignment. It should be considered that the lead times for transmission infrastructure development are significantly longer than typical supply resources.

Tracking Previous Stakeholder Feedback (continued)

Stakeholder Feedback

- Clarity on how government and regulatory policy may interact with the framework

IESO Response

- The proposed implementation of the Resource Adequacy framework recognizes the role of Government to define and meet policy objectives in a number of ways, including but not limited to regulatory changes and directives.

Tracking Previous Stakeholder Feedback (continued)

Stakeholder Feedback

- IESO should conduct a revenue sufficiency analysis/net revenue analysis to inform the Resource Adequacy discussion

IESO Response

- The Resource Adequacy framework recognizes that resources may require different levels of commitment. As the IESO implements and then further refines the framework, the IESO will take this feedback into account.



Key Insights from the 2021 Annual Planning Outlook

Key Insights from the 2020 APO

- It is recommended that stakeholders attend the 2020 Annual Planning Outlook (APO) engagement webinar scheduled for 10:15 am on January 26 during which, the IESO will present key findings of the 2020 APO
- These key findings provide important background information for the materials included in this presentation
- For those unable to attend, a recording of the APO webinar will be made available shortly after the event on the [engagement webpage](#)



Approved Resource Adequacy Framework

December IESO Board Meeting Recap

- IESO staff presented the high-level Resource Adequacy framework that was discussed with stakeholders at the November 18, 2020 engagement webinar at the December 2020 IESO Board meeting
- The blend of short-, mid-, and long-term commitments, as outlined in the high-level framework, will ensure that we continually “right-size” the fleet to meet Ontario system needs and adjust to evolving system conditions and drive greater ratepayer value
- The IESO Board approved the high-level framework, as previously presented to stakeholders and shown on the subsequent slides

Re-cap: High-level Framework

Timeframe

Competitive Mechanism

Short-term

Capacity Auction

- Seasonal commitment
- Short lead time/forward period (e.g., < 12 months in advance)
- Run auction annually on a fixed schedule
- Auction acts as a balancing mechanism (e.g., target capacity adjusted to latest forecast)
- Acquire unbundled capacity

Mid-term

RFP/Contract or Enhanced Auction with focus on existing resources

- Multi-year commitment, with longer forward period (up to 3-4 years)
- Run as needed based on Planning criteria triggers
- Acquire unbundled capacity (typically, although there may be exceptions)

Re-cap: High-level Framework (continued)

Timeframe

Competitive Mechanism

Long-term

RFP/Contract for new resources

- Longer term commitments and forward period aligned with financing needs and life of the facility
- Run as needed based on Planning criteria triggers and in some cases, policy triggers
- Consider forecast confidence when setting target value
- Consideration to acquire attributes beyond capacity



Operationalizing the Framework: for Discussion

Acquisition Process Objectives

- The IESO intends to begin operationalizing the Resource Adequacy framework early in 2021
- The goal of the IESO's acquisition process is to meet the identified system needs in a transparent and cost-effective manner by maximizing competition, to the greatest extent possible. We will achieve this by:
 - Providing information on needs on a regular and transparent basis
 - Outlining how these needs translate into acquisition quantities and mechanisms
 - Communicating the results and price outcomes transparently

Operationalizing the Framework

- The APO:
 - identifies provincial and local capacity/energy needs
 - summarizes needs identified through Bulk and Regional Planning processes
 - in the future, it will also include information on ancillary services and other operability needs
- In operationalizing the framework, the IESO will need to (1) clearly articulate system needs (planning and operational), including timing and locational considerations, (2) integrate the needs and translate them into acquisition targets, (3) identify acquisition mechanism(s)

1. Articulating Resource Adequacy Needs

- The process starts with a clear articulation of system needs
- Planning documents will outline needs that will lead to the acquisition of capacity, energy, ancillary services, or any other products needed to ensure reliable operations:
 - Quantity of MWs and/or MWhs that are forecasted to be needed
 - Time when need emerges and how long it persists
 - Define location and any other requirements
 - Provide perspective on the level of forecast certainty
- Once those needs are clearly outlined they need to be integrated and then translated into acquisition targets

2. Translating Needs into Acquisition Targets

- In order to provide a clear picture of provincial and local requirements, the IESO will integrate needs identified in regional and bulk planning products, as well as other studies that focus on ancillary services or operability requirements
- The integration of needs will also identify and consider the impacts of any known government policy objectives and directives

2. Translating Needs into Acquisition Targets (cont'd)

- Integrating needs from these various sources will provide a complete picture of how local, global, and any other identified needs relate to one another to minimize the risk of over- or under-procurement. For example, addressing a local need may also address a global need at the same time
- The IESO will provide this information in a separate report, that will be issued after the APO
 - The report will summarize the integrated needs and what the expected acquisition targets and mechanisms are

3. Identify Acquisition Mechanism

- Once acquisition targets have been specified, the IESO will identify the acquisition mechanism(s) we intend to use
- To inform this decision-making process, the IESO may conduct a sector scan to assess the market conditions and to better understand resources that may be available to meet system needs. The IESO will rely on different sources of information:
 - Information from existing contracts, procurements, auctions, programs, IESO registration and System Impact Assessment (SIA) processes
 - Any other accessible customer and market participant data
 - Other processes

3. Identify Acquisition Mechanism (continued)

- The IESO could also use formal processes to acquire information e.g. market sounding and/or Request for Information/Expressions of Interest

3. Identify Acquisition Mechanism (continued)

- Based on the information from the sector scan, the IESO will then examine how to best meet the identified needs using one or some combination of the following mechanisms:



3. Identify Acquisition Mechanism (continued)

- This information will be summarized in a separate report together with the integrated needs assessment that will lead to the specification of target acquisition quantities
- This report, the Annual Acquisition Report (AAR), will be published shortly after the Annual Planning Outlook
 - The process will be flexible to provide interim updates when relevant, new information becomes available between reporting cycles

From Planning to Acquisition: Process Overview

Provincial Planning Products

- Global Adequacy Planning, Transmission plans

Local planning products

- Regional Planning
- Bulk System Planning
- Reliability Must-Run (RMR) Assessments

Government Policy Objectives and Directives

Ancillary Services Needs



Annual Acquisition Report (AAR) specifies:

Long-term Commitment for needs that require significant new resource investments (type, products, characteristics, size, connection, location, forward period, commitment period and other requirements)

Medium-term Commitment

Target Capacity, forward period, length of multi-year commitment period, other requirements

Short-term Capacity Requirement:

Target Capacity and Zonal Limits for annual Capacity Auction

Other acquisitions: Transmission, Ancillary Services, Reliability Must Run Contracts, Contract Extensions

Key Considerations for Developing the AAR

1. The need will drive the eligibility of resources and participants
 - As many technology types as possible should be able to participate in acquisition mechanisms as long as they can address the identified requirements
2. Acquisitions covered in the AAR will primarily be for reliability purposes
 - These acquisitions are not expected to be the vehicle for the IESO to pilot or trial new products or services, unless explicitly stated as part of the need

Key Considerations for Developing the AAR (continued)

3. The needs will be stated in unforced capacity terms (UCAP) to ensure a level playing field between different resource types
 - In addition to the capacity information, any operability or energy needs will be stated
4. Level of forecast uncertainty will be an important consideration in setting acquisition targets
 - IESO may specify a higher or lower acquisition target than the forecasted need based on the level of certainty of the forecast

Key Considerations for Developing the AAR (continued)

5. The impact of any known policy objectives/directives will be outlined
 - Flexibility will need to be maintained to react to and incorporate any policy changes
6. IESO will communicate the acquisition targets and acquisition mechanisms transparently to impacted parties beyond prospective proponents
 - Information will be relayed to impacted municipalities, LDCs, indigenous communities, key government or regulatory agencies

Annual Acquisition Report

- Ensuring regular and transparent reporting will be key to create a positive investment climate as it provides a summary of the forecasted needs and a clear statement of how the IESO will meet system needs
 - The report will also identify acquisitions that are driven by Government directives
- The report will focus on the needs that will require action over the next 1-3 years, and provide a high-level overview of possible acquisitions beyond that timeframe

AAR: Specifying the Acquisition Target

- The AAR will provide as much information as possible, especially for near-term needs with procurements being launched before the next AAR publication:
 - Product or service needed - level of capacity in UCAP, expected energy production, any A/S required
 - Minimum and/or maximum project size(s)
 - Type of eligible market participants (i.e. 5-minute dispatchable)
 - Physical and electrical location
 - Any other dispatchability/operability or resource requirements

AAR: Identifying the Mechanism

- The AAR will clearly outline whether the identified acquisition target(s) will be met through competitive or non-competitive processes
- The following inputs will be considered in this process:
 - Number and type of existing resources, including capability and viability
 - Availability of readily deployable resources (DR, imports, uprates, storage, DERs, etc.)
 - Development timelines for new, larger scale assets
 - Policy and technological change and other developments

Competitive Acquisition Mechanism

- Competitive mechanisms are expected to be open to all resource types that meet the eligibility requirements
 - Maximizing competition will ensure that Ontario maintains a cost-effective and modern supply mix that meets our system and operational needs
- The competitive mechanisms that the IESO will rely on are:
 - Capacity Auction
 - RFP for capacity only or for capacity from resources that can meet other identified needs (i.e. energy and/or operability characteristics)

Acquisition Mechanism: Long-term Procurement

- When a need has been identified that cannot be met by existing assets or readily-deployable assets, the IESO may need to facilitate this investment through a procurement with a longer-term contract
 - The procurement may incent resources to provide reliability products beyond capacity
- The forward period and commitment period will appropriately balance the identified system needs, the persistence and forecast certainty with the need to facilitate the investment in a cost-effective manner

Acquisition Mechanism: Mid-term Procurement

- When needs are identified that can be met by a number of available resources, the IESO will be able to choose mechanisms (i.e. RFP or Capacity Auction) with a shorter commitment period (e.g. 3 to 5 years)
- This ensures that the IESO does not over-procure or lock into costs, terms and conditions that are no longer reflective of an ever changing sector and technologies
- Providing multi-year commitments will give existing assets some certainty to maintain and upgrade their facilities as needed – balancing larger supplier risks with ratepayer value

Acquisition Mechanism: Annual Capacity Auction

- The IESO is committed to an annual Capacity Auction as a key mechanism to meet capacity needs in a flexible, competitive and transparent manner
- The auction will be continuously enhanced to ensure it integrates seamlessly with the other mechanisms and meets system needs cost-effectively
- It will be important to provide long-term certainty of the viability of this mechanism for the participants to ensure they will continue to make investments

Acquisition Mechanism: Sole Source Procurement

- There may be circumstances when the IESO may not be able to utilize competition to meet an identified need, or may determine that a sole sourced procurement will meet needs most cost-effectively. This should be viewed as a backstop to competitive acquisitions, and is more likely to occur as we transition into the framework
- The IESO can draw on a number of information sources to make a determination if a competition is not feasible
- This determination will be clearly outlined in the Annual Acquisition Report

AAR: Setting Acquisition Targets

- The interplay between these mechanisms is key in implementing this framework
- A key consideration is to ensure all mechanisms support investments in existing and new resources to ensure the sector remains flexible and adaptable to changing system needs and technological advancements
- The acquisition targets for upcoming procurements and auctions will be detailed in the AAR

AAR: Setting Acquisition Targets (continued)

- Key considerations that will drive the setting of acquisition targets:
 - Deliver cost-effective outcomes that support reliability needs
 - Ensure all mechanisms provide certainty to support investment
 - Ensure liquidity and competition
 - Avoid over- or under-procurement
 - Include forecast uncertainty for both demand and supply
 - Provide flexibility to adjust to changes



2021 and 2022 Capacity Auctions

Capacity Auction

- IESO is committed to running the Capacity Auction, on an annual cycle, as an important mechanism to ensure Resource Adequacy, especially over the next several years
- IESO intends to make regular, incremental improvements to the Capacity Auction to increase competition and performance
 - Furthermore, changes will need to ensure consistency with the proposed framework and any procurements that are launched
- The AAR will outline the forecasted capacity target for upcoming auctions and also identify whether any additional enhancements are needed to ensure the auction can meet its forecasted target effectively

Capacity Auction Enhancements

- The auction enhancements that the IESO will be working on over the next two years can be categorized in the following way:
 - Enabling Auction Participation
 - Efficient Auction Performance
 - Enhanced Auction Processes
 - Establish Key Auction Parameters
- Auction enhancements included in these categories will leverage previous comments received from stakeholders in the Capacity Auction engagement

Capacity Auction: Enabling Participation

- The IESO will engage with stakeholders to enable participation of other readily-deployable resources over the next two years:
 - **Resource-backed imports** - process to begin in 2021 but changes expected to take effect for the 2022 auction
 - **Qualifying Capacity through UCAP** - Developing a UCAP framework that is applicable to both auctions and other procurements will be done transparently and collaboratively with stakeholders
- The IESO would also like to explore the inclusion of **uprates of existing facilities** in the auction

Capacity Auction: Efficient Performance

- Work with stakeholders on improving participant performance during the obligation period by:
 - Establishing a Qualifying Capacity process (transition to UCAP) to reflect the performance capability of each resource type and hence its effective capacity contribution
 - Developing a UCAP framework that is applicable to both auctions and other procurements
 - Reviewing availability requirements/obligations and the associated assessment rules and charges

Capacity Auction Process Enhancements

- The IESO and stakeholders now have several years of experience with the auction and several process issues have emerged that we will engage stakeholders on:
 - Definition of key terms, including but not limited to, clarifying physical and virtual participation
 - Reviewing the 'point in time' rule that establishes which rules are applicable to an auction period
 - Examining the registration process
- The IESO welcomes additional feedback from stakeholders on additional process enhancements for the 2021 auction

Capacity Auction: Key Parameters

- The IESO will engage with stakeholders on the following enhancements for the 2021 auction:
 - Review the process and timelines for setting/reviewing key auction parameters, including but not limited to Net cost of new entry (CONE)
 - Setting the target capacity
 - This process will be defined within the AAR but will need to be appropriately documented for the auction

Capacity Auction Parameters (continued)

- Establishing a minimum capacity floor
 - In order for the auction to be a robust acquisition mechanism, the IESO is proposing that the auction will have a minimum amount of capacity that will be acquired year-over-year

Establishing a Minimum Capacity Floor

- By having a combination of short, medium and long-term mechanisms, there is a possibility that the short-term mechanism is undermined if too many longer-term commitments are made
- In order to ensure the auction delivers stability and certainty to continue to attract new participants, the IESO is proposing to implement a minimum capacity floor
 - This will ensure that the auction remains resilient against uncertainties, changes in market conditions and lumpy investment while supporting liquidity

Establishing a Minimum Capacity Floor (continued)

- This minimum capacity will be taken into account in setting targets for the other acquisitions
- Liquidity in the market is particularly important considering the dominance of a single regulated generator
 - Losing smaller assets will not only impact the competitiveness of acquisition mechanisms but also impact the energy and ancillary services markets



Stakeholder Feedback and Next Steps

Stakeholder Feedback Requested

- Does the proposed process to set acquisition targets and select competitive mechanisms align with stakeholder needs?
- Is there any additional information that the IESO should consider including in the AAR to help participants make investment decisions?
- What are the timing considerations from a stakeholder perspective with respect to the AAR?
- Are there any concerns with the proposed Capacity Auction enhancements?

Submitting Stakeholder Feedback

- Written feedback can be provided to engagement@ieso.ca using the feedback form on the [engagement web page](#) by February 17.
- Please use the feedback form provided to ensure stakeholder feedback is compliant with the Accessibility for Ontarians with Disabilities Act (AODA). If you choose not use the IESO feedback form, please provide an AODA compliant pdf document.

Next Steps

- The IESO expects to engage with stakeholders on a monthly basis for the foreseeable future. Further timeline information will be provided during the first half of 2021, as the detailed aspects of the Resource Adequacy Framework are discussed with stakeholders.
- Monthly Resource Adequacy engagement sessions may focus on developing and operationalizing the Resource Adequacy framework, Capacity Auction enhancements or both
- The agenda for the February 22-24 engagement days will be released by February 4

Thank You

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