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2022-24 Business Planning: Meeting Future System Needs

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System and Sector Needs

- 2020 Annual Planning Outlook identified capacity and energy needs through 2040
- Technology advancements enabling alternative forms of supply and more distributed resources
- Communities looking to address economic development and sustainability goals
- Continued need for affordable electricity
- Resilience in the face of extreme weather events and cyber threats

IESO Focus 2022-2024

Drive greater cost-effectiveness by growing competition and more efficient markets:

- Execute the Resource Adequacy Framework through mechanisms outlined in the Annual Acquisition Report and evolve it as we gain more experience
- Continue to Enabling Resources initiative, the DER Roadmap and other innovation projects to identify timelines and mechanisms to ensure all capable resources types can compete to provide electricity services
- Complete the Market Renewal Program to introduce fundamental market reforms to improve how we supply, schedule and price electricity

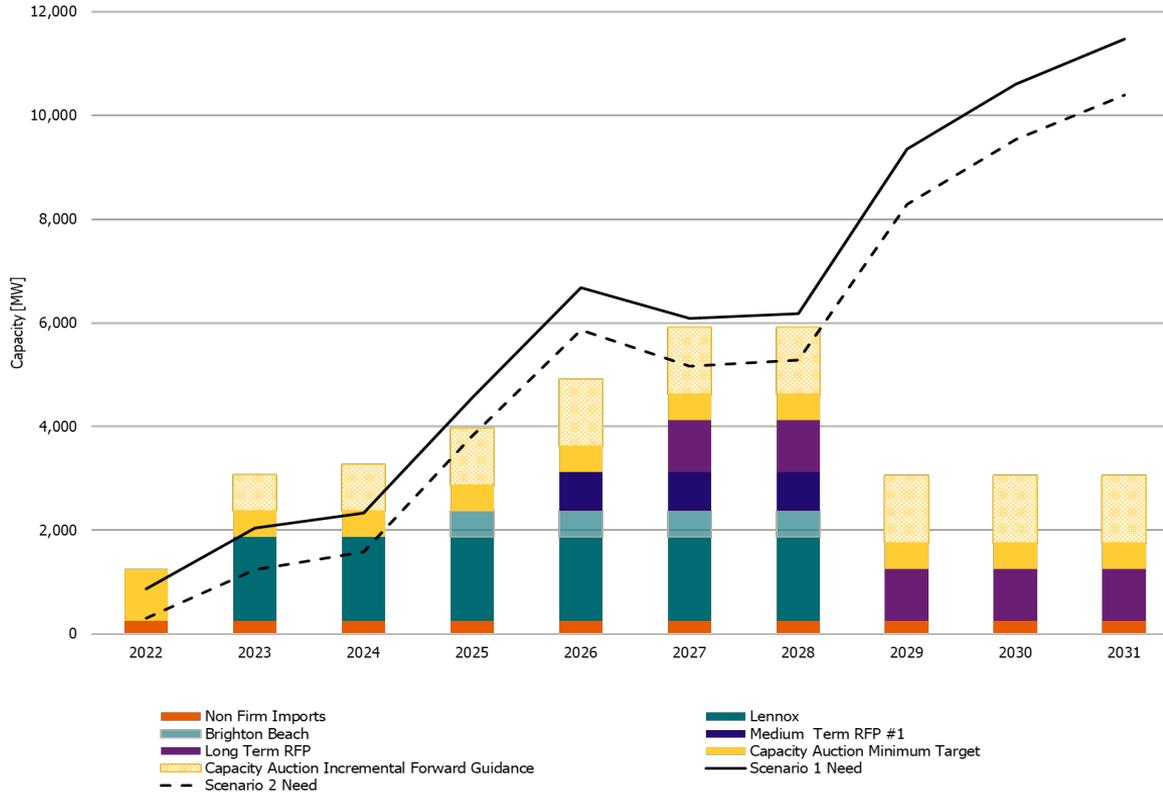
Implement Actions to Ensure Resource Adequacy

- After years of strong supply, Ontario is now entering a period of growing electricity system needs; actions are needed to be capacity and energy adequate and maintain cost-effective reliability
- [Annual Acquisition Report \(AAR\)](#), outlines planned actions guided by the Resource Adequacy Framework to ensure resource adequacy:
 - Enhance and grow the IESO's Capacity Auction as a balancing mechanism
 - Initiate a medium-term RFP in late 2021
 - Intent to launch a long-term RFP in late 2022
 - Pursue specific bilateral arrangements as a transitional approach where reliability needs cannot be addressed in a timely manner through competitive processes

Resource Adequacy Framework: Components

	Mechanism	Application
Programs and Government Policy considered throughout	Capacity Auction	To balance fluctuations in capacity needs from one year to the next.
	Medium-Term Commitments	To secure resources that require either longer forward periods or multi-year commitments, resources can participate in either Competitive procurements, such as an RFP, or an enhanced capacity auction
	Long-Term Commitment	To secure resources with very long forward periods or commitments, such as new-build facilities
	Bilateral Contracts	To secure resources where a need exists that cannot be addressed in a practical and timely way through competitive processes. This is likely to occur when needs are urgent and/or must be satisfied by supply in a specific location in the province

Planned Actions to Address Resource Adequacy Needs



Enabling Greater Resource Participation

- APO forecasts growing needs through the 2020s for capacity, energy, and specific operability attributes, which will require securing new resources
- IESO's [Enabling Resources Program](#) (ERP) will prioritize investments in tools and processes over the next 5-10 years, aligning with budget and staffing availability, and support increased competition to meet future system needs
- ERP has identified enabling storage, hybrid (generation + storage), and Distributed Energy Resources (DERs) as high-priority opportunities
- A draft workplan will be published in Q3 identifying the specific projects the IESO will undertake and the timing for implementation

Maximizing Participation Through Innovation

- Investments are required to prepare for a changing future - over 5,000 MW of Distributed Energy Resources (DERs) deployed in Ontario and many more emerging
- Roadmap will lay out IESO's objectives, initiatives, timing for DER integration
- Three key areas of focus for roadmap:
 1. Non-Wires Alternatives: considering NWAs to meet regional needs
 2. Wholesale market integration: expand DER ability to participate in IESO-administered markets
 3. Transmission-Distribution Coordination: identify/implement mechanisms to ensure reliability and efficiency can be maintained at all levels of the grid

Prepare for Market Renewal Program (MRP) Delivery

- MRP will introduce fundamental reforms to market operations, including a new market (Day Ahead) and enhanced processes to improve how we supply, schedule and price electricity
- This will deliver a host of benefits, in excess of \$800M (on a net basis) over the first 10 years to the market participants and rate payers of Ontario
- Final phase of work focused on implementation – activities include development of market rules, market manuals and internal business documentation, solution development, testing, training and readiness activities
- IESO business units must incorporate new processes and tools for the renewed market during the business planning period

Prepare for the Future

- Investments are required to prepare for a changing future:
 - Enhance resilience to extreme weather events
 - Expand and maintain engineering expertise of our staff
 - Update tools and power system planning models to ensure high quality advice and guidance to the sector
 - Advance expertise on emerging trends, new technologies, market evolution, electricity demand and resource research

Respond to External Initiatives and Priorities

- The IESO will continue to lead and support externally-driven initiatives and priorities over the business planning period:
 - Lake Erie Connector and Oneida are being assessed through the Unsolicited Proposals Process
 - Calstock extension discussions underway by Ministerial Directive
- IESO will also continue to address Market Surveillance Panel recommendations

Questions for SAC Input

1. Is the IESO focused on the right priorities over the 2022-2024 Business Planning period to meet Ontario's future system needs?
2. What additional areas of focus should the IESO be exploring to support meeting future system needs?

Thank You

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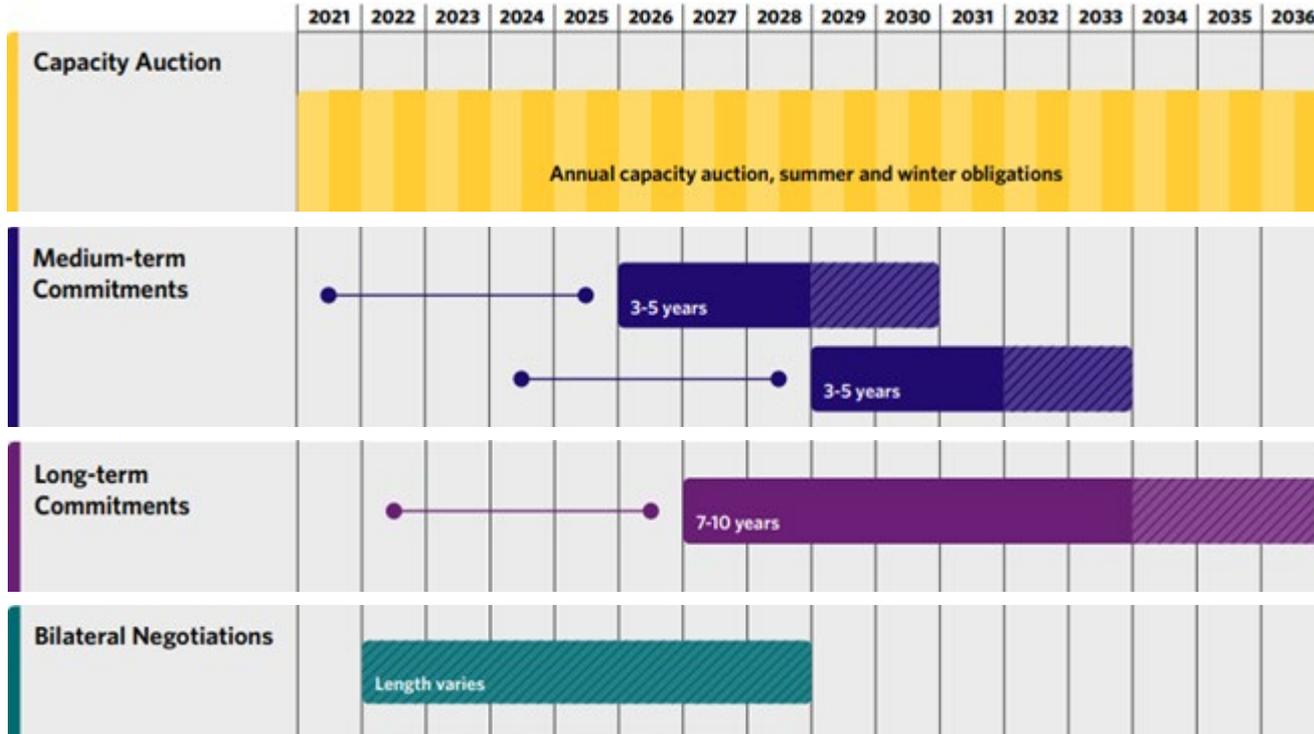


Appendix

Key 2022-2024 ERP & DER Projects

- To advance ERP initiatives while the workplan is being developed, the IESO is undertaking design vision processes for two key projects
 - The [Hybrid Integration Project](#) will identify participation model(s) to enable hybrid (generation-storage) resources in the IESO-administered markets to support Ontario's future system needs - public engagement initiated in April 2021
 - The [DER Market Vision Project](#) will build on opportunities identified through the IESO's DER whitepaper series by introducing enhanced participation models for aggregations of distributed energy resources (DERs) and seek to address barriers to participation of small resources (e.g. metering, telemetry, etc.) - public engagement will begin in fall 2021
- Key DER initiatives for 2022-2024: DER potential study; OEB/IESO Joint Targeted Call for Proposals; DER Market Vision Project; GIF Indoor Agriculture Projects; York NWA Demonstration

Resource Adequacy Framework: Timing



Annual Acquisition Report: Next Steps

Planned Action	Next Steps
Capacity Auction	<ul style="list-style-type: none">• Publish the 2021 pre-auction report with targets from the AAR on September 1, 2021• Engage stakeholders on enhancements (e.g. transition to qualifying capacity on a UCAP basis) for the 2022 capacity auction.
Medium-Term RFP Engagement	<ul style="list-style-type: none">• Beginning in Q3 2021, the IESO expects to seek stakeholder input on the procurement design and draft procurement documents for the medium-term RFP.
Long-Term RFP	<ul style="list-style-type: none">• 2021 APO to identify reliability needs that may be addressed in the long-term RFP.
Annual Acquisition Report	<ul style="list-style-type: none">• IESO will start engagement with stakeholders in late Q4 to seek feedback on the 2021 AAR and to inform future iterations