



Input Item: Future Resource Acquisition Plans and System Needs

Chuck Farmer, VP, Planning, Conservation and Resource Adequacy
Barbara Ellard, Director, Resource and System Adequacy

Purpose

- In this presentation, the IESO will provide:
 - Early insights for the 2021 Annual Planning Outlook
 - Update on the development of the medium and the long-term procurements
- Input will be sought on the connection between planning and resource adequacy tools, with a focus on the long term RFP

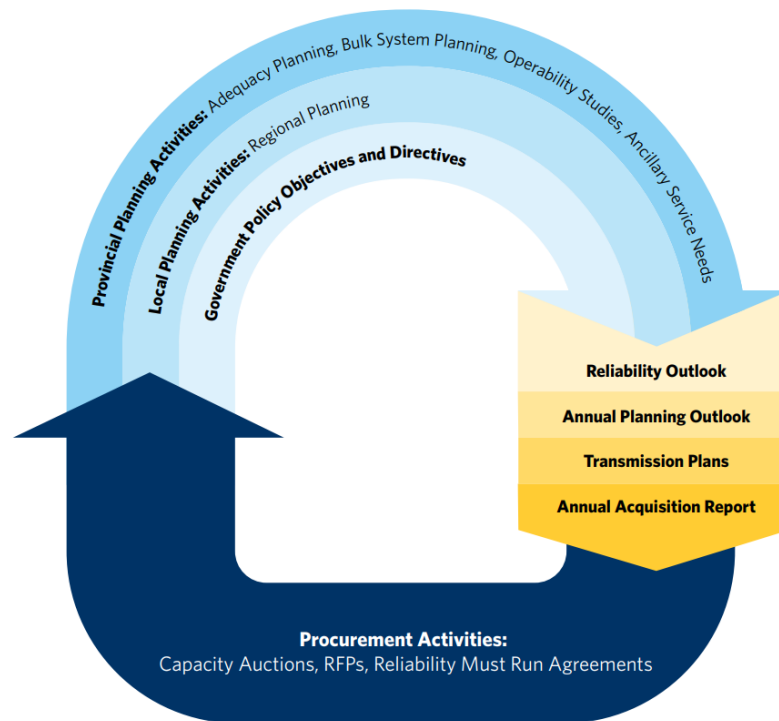
Reliability is at our Core

- The IESO recognizes that our initiatives are **interrelated** and build on one another
- As the sector, businesses, policies and technologies continue to **evolve**, the IESO will need to adapt and adjust to these changing landscapes
- In order to create effective **alignment** and ensure efficient delivery, we need to continue to put reliability at the centre
- We recognize that **uncertainty** is here to stay and remaining **flexible** and adaptable will be key
- It will be important that we focus on **progress** and build on lessons learned from the past
- We cannot lose sight of our goal to meet **reliability** needs **cost-effectively** to guide us in this journey



Bringing it all Together

- The IESO will leverage our planning activities and products, including the Annual Planning Outlook, to identify system needs
- The Resource Adequacy Framework outlines the tools available to acquire resources
- The Annual Acquisition Report will identify how to acquire the resources to meet those needs
- This is an annual process that allows IESO to adjust and readjust as circumstances change





2021 Annual Planning Outlook: Early Insights

Context

- The [Annual Planning Outlook](#) provides an assessment of the energy landscape – to help understand potential changes in demand and available supply that will help the IESO shape its plans to meet future needs.
- This year, the province’s electricity system is shifting into a period of sustained demand growth with an increasing focus on decarbonization, requiring action on a number of fronts.
 - Demand for electricity is rising – economic growth coming out of the pandemic, with electrification from other sectors, is driving energy use up across the province

See appendix for more detail on the APO findings

Context (2)

- On the supply side, nuclear refurbishments and retirements are creating medium-term capacity shortfalls which can be managed by existing supply. Yet, longer-term needs are creating opportunities to open the system up further to new supply options and new ways to procure and integrate them.
- At the same time, the IESO is exploring a potential moratorium on new gas generation in the province as well as a pathway for a complete phase out.

Early Insights

- Ontario is entering a time of marked electricity demand, growing faster than anticipated in the last APO
 - growth in the industrial, mining and agricultural sectors, as well as transportation electrification, are leading to higher electricity demand than Ontario has seen in decades.
- Projected demand from electrification of transportation is forecast to grow an average of 20 per cent a year
 - driven by commitments for electrification, including large transit projects and public policy support for industrial and consumer sectors

Early Insights (2)

- Future policy decisions and economic growth mean long-term demand has the potential to be much higher
 - Driven by possible further government policies towards electrification, and large industrial sector projects emerging as a result of economic growth
- The supply mix in coming years could look very different
 - Resource outlook includes considerable change through the 2020s and early 2030s due to the combined effect of nuclear retirements, refurbishment outages, and expiring contracts/commitments

Early Insights (3)

- Accelerated growth is happening in parts of the province that will need transmission support or local supply.
- Pickering's retirement and Darlington refurbishments will create a regional capacity gap requiring new resources before 2030, while mining and industrial electrification are creating pockets of regional demand that will require integrated plans – community input will be critical



Resource Adequacy Framework

Context

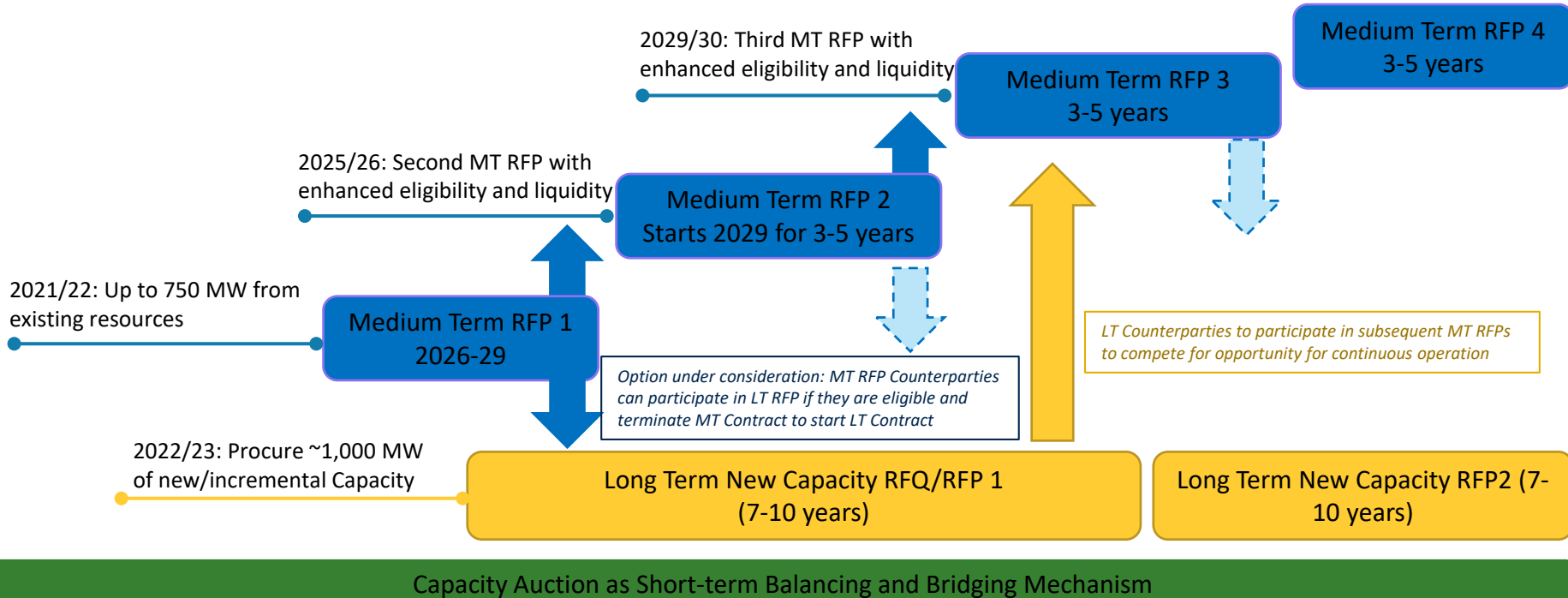
- The Resource Adequacy Framework has established new processes to identify and then act on future needs
- The framework provides more transparency and clarity around needs, but also how the IESO arrived at identifying and expects to meet those needs, so that the sector can anticipate and respond
- As Ontario's electricity system continues on its path of fundamental transformation, the speed of change will be influenced by public policy, growing experience and improvements in new technologies, consumer preferences and economic drivers – and the Resource Adequacy Framework will support it

Operationalizing the Framework

- The IESO has engaged with stakeholders on the Resource Adequacy framework, and subsequently begun to operationalize it through the issuance of the first [Annual Acquisition Report](#) and the initiation of procurement activities
- The framework outlines the IESO's transition to a product/service based acquisition framework that is centered on meeting power system reliability needs in a cost-effective manner
- The approach will introduce elements of flexibility into Ontario's supply mix, while providing certainty through a cadenced procurement approach
- The 2022 medium-term RFP is the first in a series of medium-term RFPs and will procure capacity from existing resources, with commitments starting in 2026
- The IESO will also be launching an engagement on the long-term RFP, which will be focused on new and incremental resources that can come into service 2026-28
- The Capacity Auction will continue to play a pivotal role in providing a more flexible approach to balancing our forecasted needs on annual basis

Overview of the RA Framework

Timelines are illustrative





Meeting Ontario's Long Term Needs

Medium Term RFP Overview

- A first-ever medium-term RFP for up to 750 MW will be issued in early 2022 to bridge capacity gaps created by expiring contracts
- This RFP – to last 3 years with a potential 2 year extension - will be open to existing generators
- Eligible facilities will include existing generators/storage facilities (contracted/off-contract), merchant resources, upgrades to existing facilities
- Pathways to the LT RFP will be identified for participants that wish to make additional investments in upgrades or install new energy storage resources
- This effort will hold the province's system whole and reliable, as it prepares for greater transformation, and future needs that will emerge later in the decade

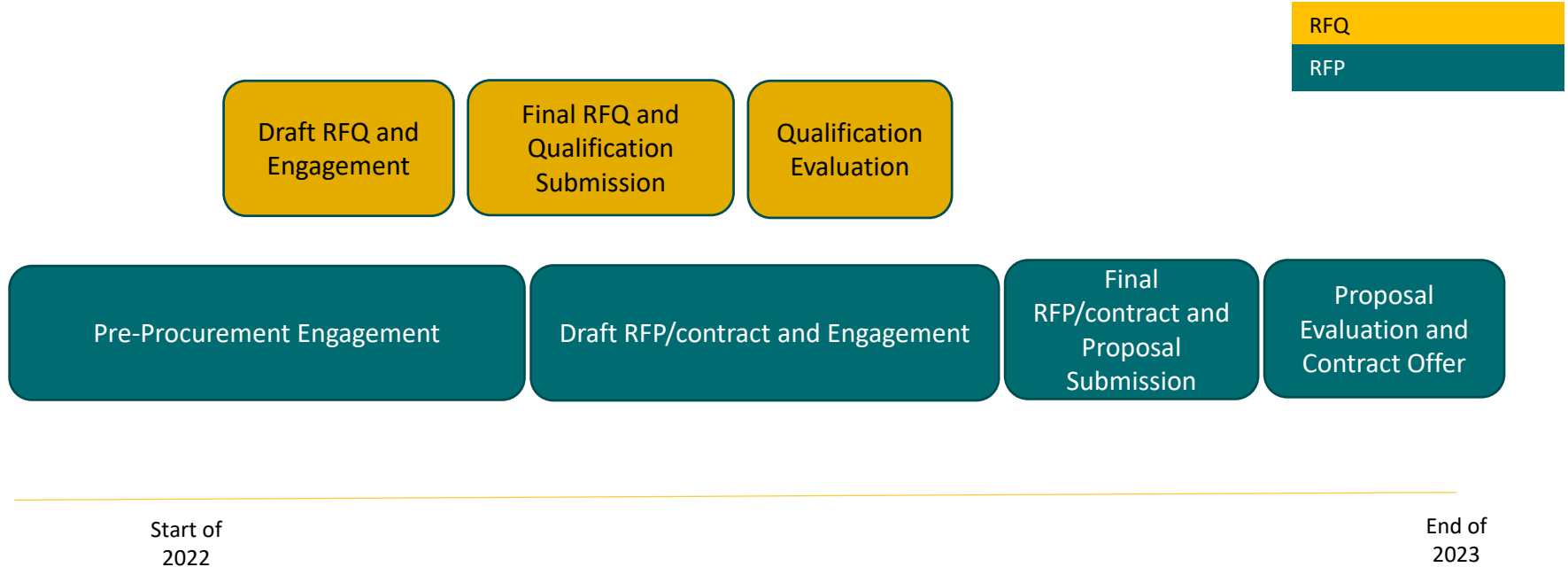
Long-Term RFP Overview

- Over the long term Ontario will need additional capacity, likely greater than 1,000 MW, that could be satisfied using a wide range of both conventional and emerging resources
- The long-term RFP will provide a significant opportunity for new and incremental supply, allowing for longer commitment periods to provide certainty for larger capital investments
- The proposed long-term RFP will provide commitments between 7 and 10 years to provide investors with a higher level of certainty to make investments in new and incremental resources
- It will employ a two stage procurement process that will include a Request for Qualifications (RFQ) stage, followed by a Request for Proposals (RFP) stage

Key Considerations for the Long-Term RFP

- As the IESO is preparing the long-term RFP, a few considerations are front and centre:
 - How to articulate our system needs clearly, including energy needs, operability requirements and locational considerations
 - Define and advance the participation model(s) for hybrid resources
 - Understand community engagement needs and expectations

Draft Long Term Procurement Timelines



Seeking Input from SAC Members

General Considerations:

- Thoughts on the connection between the IESO's planning and acquisition tools and supporting greater clarity for the sector

Long Term RFP Considerations:

- Areas of risk to success that the IESO should consider at the outset
- Role of communities (municipal and Indigenous) in the acquisition of new resources, and tools/information they may need