Market Renewal Backgrounder

From Market Opening to the Present

The current electricity market was designed in the late 1990s and opened in 2002, when the electricity landscape looked very different from today. The elimination of coal, integration of renewables, increase in distributed resources, and growing role of demand-side resources has dramatically changed the dynamics of Ontario's electricity system. Inefficiencies with the current market have been identified over the years through the work of the Market Surveillance Panel, the Electricity Market Forum, IESO studies, and stakeholder input.

While the IESO and its stakeholders have worked together over the last decade to incrementally improve different aspects of the market, it is apparent that more foundational market changes are necessary to meet the very different circumstances of today and preparing for tomorrow's electricity marketplace. Maintaining the status quo would lock in the inefficiencies of our current design, drive costs higher than necessary, and limit the ability of the market to integrate new, emerging technologies reliably and cost effectively.

Where We Are Today

Ontario is now in a stable supply situation that is expected to continue into the mid-2020s, making this an opportune time to consider and implement needed market design changes that would realize significant benefits for the province.

Operating the grid effectively has become more complex as the sector has transitioned from a model of centralized, conventional generation to an increasingly diverse, clean supply mix. The current market design is premised on scheduling and dispatching energy in real- time providing very little flexibility should system conditions deviate from forecasts. Improving the dispatch and commitment of resources is expected to result in material benefits by using our assets in a more efficient manner, supporting reliable and more efficient operations as more renewables and decentralized resources are added to the grid.

Market Renewal

The objective of Market Renewal is to address known market inefficiencies with our current market design and lay the foundation for a more dynamic market place in the future, leading to lower costs for consumers and new opportunities for market participants.

The energy initiatives under Market Renewal are designed to address known inefficiencies with our current market design. Introducing an incremental capacity auction would allow all resources (such as demand response, distributed energy resources, upgrades to existing assets, and imports) to compete on a level playing field with existing suppliers, resulting in lower cost outcomes and potentially avoiding or deferring the need for new resources. Capacity auctions provide participants with greater certainty to plan their business. At the same time, annual auctions help avoid the cost and risk of locking in resources for extensive periods when they might not be required. In addition, the IESO is looking at ways to add flexibility to the system by finding new ways to fully utilize the operational flexibility that exists in current assets and our interties.

To meet its objective, the project scope will include improvements to the way the IESO schedules energy, procures supply resources, and incents flexibility. In particular, the project will include the following work streams and initiatives:

Work Stream	Primary Objective	Initiatives
Energy	**Reduce cost and gain efficiency** scheduling energy to meet provincial demand	• Single Schedule System • Day-Ahead Market • Enhanced Real-Time Unit Commitment
Capacity	**Reduce cost** of procuring resources to meet long-term demand	• Capacity Trade • Incremental Capacity Auction
Operability	**Increase flexibility** to reliably and cost-effectively integrate renewable resources	• More Frequent Intertie Scheduling • Investigate other opportunities

Many of these changes contemplated will result in new opportunities for both consumers and generators who will be able to compete on a level playing field to provide variety of system needs. Some of the market structures being considered are well-proven in other electricity markets and Ontario will be able to benefit from the best practices that have emerged in those markets over the past two decades. However, there is significant work ahead for the IESO and its stakeholders to design a market that best meets Ontario's needs.

Achieving Cost Savings for Both Consumers and Suppliers

The IESO has been working with stakeholders for over a year to lay the foundation for this evolution of Ontario's electricity market, and has more recently been supporting this effort with the development of a benefits case, which examines the potential scale of these benefits and the associated implementation costs. The analysis draws on past Ontario studies and the experience of other jurisdictions that have gone through similar market redesign processes. The benefits case is expected to be complete by the end of Q1 2017.

Early findings show potential for cost savings that are expected to be realized by both consumers and suppliers, with a baseline estimate of $3.5 billion (net present value) over a ten year period from 2021-2030. These savings represent a net efficiency benefit, meaning the total commodity cost of electricity (i.e. energy, Global Adjustment and uplifts) is reduced by that amount. The majority of savings are expected to flow to consumers, while the rest would flow to other market participants. Costs for the project are estimated to fall in the range of $150 - $200 million. While these are only initial findings and are expected to change as the IESO works with stakeholders in Q1 2017 to finalize the analysis, the numbers demonstrate that the range of reasonably expected benefits far outweighs the likely costs of the project.

Cost savings are achieved through the better utilization of existing assets, greater competition among resources, deferring the need to build new resources, and a more flexible procurement process that will better reflect system needs. Over half of the expected benefits are attributable to lower capacity costs from the introduction of a capacity auction while the remainder comes from lower production costs through the energy and operability work streams. The exact timing and magnitude of cost savings will largely depend on the timing of Market Renewal initiatives.

The IESO is continuing its work with stakeholders throughout 2017 to work through key design elements for the project, as well as a more detailed project plan for the overall program.