

Day-Ahead Market Enhanced Real-Time Unit Commitment

Backgrounder

The **day-ahead market** and **enhanced real-time unit commitment** are the second and third of four transformative initiatives within the IESO's Market Renewal Program (MRP).

Day-ahead market key facts

Introducing a **day-ahead market** will provide greater operational certainty to the Independent Electricity System Operator (IESO) and greater financial certainty to market participants, which lowers the cost of producing electricity and ensures we commit only the resources required to meet system needs.

- With a day-ahead market, participants submit day-ahead bids and offers to support more competition among market participants.
- Implementing a day-ahead market will replace the existing day-ahead commitment process.
- Resources are scheduled to meet total market demand, providing a better view of the next day's operations so market participants and the IESO can be better prepared for real-time operations.
- As the day-ahead market bids and offers are financially binding, it will improve participation in day-ahead scheduling helping to ensure reliability while efficiently scheduling resources.
- All other North American electricity markets include day-ahead markets.

How it works

Day-ahead markets allow participating resources to lock in price for energy and operating reserve a day in advance of operation. Typically, most of the supply is scheduled in the day-ahead market and the real-time market is used to balance any deviations that occur between day-ahead and real-time. Day-ahead markets provide a high-level of financial and operational certainty to market participants and to the system operator. This certainty enables resources to manage their risks and system operators to schedule a cost-effective and reliable supply of electricity.

With the introduction of a single schedule market in Ontario, the IESO laid the foundation for implementation of a day-ahead market, incenting all resources to participate more fully and efficiently in the day-ahead timeframe by providing financially binding day-ahead prices and schedules. Improved day-ahead participation will provide the IESO with more operational certainty and market participants with more financial certainty as real-time approaches, enabling improved planning and risk management.

Suppliers will be better able to manage arrangements for real-time fuel supply and consumers will be able to consume at planned levels confident that they will not be exposed to real-time price volatility. A **day-ahead market** will also encourage participation from imports and exports, providing a much more accurate picture of expected real-time conditions.

Enhanced real-time unit commitment key facts

The **enhanced real-time unit commitment** will help ensure the most cost-effective set of resources be available to meet demand in real-time when changes arise in the pre-dispatch timeframe.

- The enhanced real-time unit commitment will replace today's pre-dispatch process and the Real-Time Generator Cost Guarantee program, which currently compensates non-quick start resources (those that require more notice to start-up) for the costs associated with start-up and being online to meet demand when they are unable to recover them through market revenues.
- With enhanced real-time unit commitment, resources will be efficiently committed by considering all costs, unlike today's process that only considers the costs to provide energy.
- The enhanced real-time unit commitment provides certainty for non-quick start resources to recover their costs.
- Improved pre-dispatch process will help to ensure that resources are scheduled when they are among the lowest-cost options.
- Improved optimization will avoid instances of higher-cost resources being committed ahead of more competitive options.

How it works

The enhanced real-time unit commitment will introduce three-part offers into the unit commitment process. Considering all costs in making commitment decisions will increase transparency and competition within the commitment process, resulting in lower costs for consumers. It will also improve the efficiency of commitment decisions by optimizing over multiple hours rather than each hour independently.

Implementing the enhanced real-time unit commitment will address issues with the existing pre-dispatch unit commitment process and will work effectively alongside the other single schedule market and day-ahead market initiatives. The single schedule market will enable the IESO to improve scheduling decisions by laying the foundations for the day-ahead market and enhanced real-time unit commitment.

The day-ahead market will produce financially binding day-ahead schedules for all participants, including non-quick start resources based on three-part offers. If a non-quick start resource is scheduled in the day-ahead market, the resulting minimum day-ahead commitments will be transferred to the **enhanced real-time unit commitment**. The enhanced real-time unit commitment will then make additional scheduling and unit commitment decisions to address deviations between day-ahead and real-time, ensuring reliability is maintained at the lowest cost.

Next Steps

After the high-level design stakeholder review concludes in early 2019, the IESO will begin working with stakeholders on the detailed design of the three initiatives within the energy stream: single schedule market, day-ahead market and enhanced real-time unit commitment.

About the Market Renewal Program

In May 2002, the opening of transparent, wholesale competitive electricity markets in Ontario marked a shift from large, centralized and publicly owned bodies providing services to passive customers to one where buyers and sellers connect to cost effectively supply more engaged consumers with the electricity they need.

While the IESO has made incremental changes to market design to ensure system reliability, the consensus has been clear for some time: the market requires foundational and wide-reaching reforms. That is where the IESO's Market Renewal Program comes into play.

To lay the groundwork for market renewal, in 2016 the IESO committed to a made-in-Ontario approach by establishing an internal market renewal team supported by an external Market Renewal Working Group, a representative stakeholder forum to advise and inform the IESO on important strategic, policy and design issues affecting the program's success.

In the two years since, this collaborative effort has delivered a compelling benefits case study, a comprehensive market renewal engagement framework founded on agreed-upon principles, and general consensus on important high-level design decisions that will shape Ontario's new marketplace.