
Messages for Bloomberg News Request on Global Adjustment

Q1: Why have electricity costs in Ontario increased at the pace that they have?

- Just over a decade ago, Ontario's electricity system was dealing with aging infrastructure, a shortage of generation and a reliance on coal.
- Between 2005 and 2015 Ontario's supply mix was transformed:
 - About \$35 billion was invested in generation, including more than 14 GW of renewable, natural gas fired, nuclear and demand response resources – while eliminating 6 GW of coal.
 - Almost \$16 billion was invested in transmission and distribution networks.
- These investments have helped to ensure a stable electricity system and reduced emissions significantly – about 90 percent of the energy produced in Ontario is emissions free.
- At the same time, demand has declined over the last 10 years as a result of conservation, distributed energy resources, and changes in the economy. We're using less electricity today than we were pre-recession, despite a growing economic base.
- As a result, the impact of growing total system costs has been amplified by lower consumption province-wide.

**See OPO Chapter 2 for more information*

Additional messages on what do we see down the road:

- Ontario is well-positioned to meet provincial needs until the mid-2020s, while continuing to adapt to significant change across the sector.
- Ontario's electricity sector will face significant change over the next 20 years as climate change commitments, nuclear refurbishment programs, emerging technologies, growth in distributed energy, and changing customer preferences begin to take shape and evolve.
- Through the Ontario Planning Outlook, the IESO has considered a range of potential long-term electricity demands and options for addressing them. Evolutions in policy, technology and the market, along with rising customer engagement are happening across the sector.
- Ontario has flexibility to adapt, positioning it to take advantage of future opportunities and mitigate future risks, like meeting electrification-driven demand growth.

Q2: Why has the cost of GA increased so much over time? Is it the feed-in-tariff program that is the main driver of that?

- Over the last ten years, GA has been used to recover the cost of 14 GW of new generation, the cost of conservation, and other programs (like IEI). At the same time there has been a decrease in demand, which means more costs are spread over less consumption.

Offer to send Josh a breakdown of payments for global adjustment components by fuel type and programs (publicly available on the new website)

Other factors that have led to higher GA costs include:

- Declining HOEP:
 - Low demand
 - New low or zero marginal cost generation capacity (i.e., wind and solar) and
 - Declining natural gas prices

If asked about GA and the market

- GA and the market price together recover the total generation cost for a facility.
- Global adjustment covers the cost of building new electricity infrastructure in the province, as well as delivering Ontario's conservation programs – ensuring that enough electricity supply will be available over the long term.
- The global adjustment is set monthly to reflect:
 - The differences between the wholesale market price for electricity, known as Hourly Ontario Energy Price (HOEP) and:
 - Regulated rates for Ontario Power Generation's nuclear and hydroelectric generating stations
 - Payments for building or refurbishing infrastructure such as gas-fired and renewable facilities and other nuclear, as well as the contracted rates paid to a number of generators across the province
 - The cost of delivering conservation programs
- Responding to changes in the HOEP, the global adjustment varies from month to month – generally, when the HOEP is lower, the global adjustment is higher in order to cover the costs of regulated and contracted generation.

Total GA costs from 2006-2016	HOEP totals from 2006-2016
2006=\$654 million	2006 \$6,533,128,869.51
2007=\$597 million	2007 \$7,612,682,677.92
2008=\$900 million	2008 \$7,605,952,805.81
2009=\$4.2 billion	2009 \$4,362,271,905.60
2010=\$3.85 billion	2010 \$5,358,919,472.07
2011=\$5.3 billion	2011 \$4,448,644,342.22
2012=\$6.45 billion	2012 \$3,410,767,511.19
2013=\$7.7 billion	2013 \$3,759,106,885.14
2014=\$7 billion	2014 \$5,100,814,010.59
2015=\$8.4 billion	2015 \$3,307,963,033.06
2016=\$12.3 billion	2016 \$2,332,003,751.47
Total=\$57.4 billion	
Totals were calculated based on GA totals available on the IESO website, available here .	The HOEP values are approximate, but demonstrates the inverse relationship with GA (as HOEP goes down, GA goes up).

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Q3: Does the smaller Ontario industrial base exacerbate the problem (fewer users to shoulder a growing cost load = double whammy?).

- The total cost of electricity service grew by 32 percent between 2006 and 2015, primarily because of new investments in generation and distribution infrastructure. The cost is now approximately \$20 billion per year.
- Over the same period, demand declined as a result of conservation, distributed energy resources, and changes in the economy. We're using less electricity today than we were pre-recession, despite a growing economic base.
- The reductions in overall demand and increased cost of electricity service means that the average unit cost of electricity increased by 3.9 percent per year during that timeframe.
- However, future energy prices are expected to remain stable over the long term as much of the investment in the system has already been made (*does not include the government's recent Fair Hydro Plan*).

If asked about industrial electricity rates:

- In Ontario, electricity rates for large industrial consumers in Ontario vary by customer as they are determined by individual consumption patterns.
- Generally speaking, the less energy a large industrial facility uses during peak hours, the more these consumers can reduce their electricity costs by participating in the Industrial Conservation Initiative.
- This program also helps to reduce Ontario's overall peak demand – almost

**Offer to send a link to a webpage with more info on ICI.*

Additional related questions:

The government of Ontario announced its fairer hydro plan last week. As part of that plan, the government announced a refinancing of the GA. What will the IESO's role be in this?

- The IESO has had preliminary discussions with the government about its proposal and is now waiting on further details to be revealed through pending legislation.
- The IESO understands it is to work with Ontario Power Generation to facilitate the refinancing of the global adjustment over a longer period of time. The IESO expects further details to become available once the legislation is introduced.

Where do you see electricity costs heading in the future? Will we continue to see an increase?

- In 2016, the IESO prepared its Ontario Planning Outlook (OPO), which provides a 10-year review (2005-2015) and a 20-year outlook (2016-2035) for the electricity system with respect to key variables including conservation, demand and supply resources.
- The report provides the planning context for policy makers and industry stakeholders and serves as an early input into the government's Long-Term Energy Plan (LTEP) development process.
- The total cost of electricity service over the planning outlook is dependent upon several factors, including future demand growth, the cost of operating the existing system, and the investments required in new resources to meet potential needs.
- In the future, notwithstanding the government recent Fair Hydro Plan announcement, energy prices are expected to remain stable over the long term,.
 - In the flat demand outlook, electricity service costs would remain stable at \$21B/year over the next decade and is estimated to decrease to about \$19B by 2035.
 - In the higher demand outlooks, the annual costs of electricity service would rise by \$4B-\$9B by 2035. This would be associated with an increase in energy consumption, so the cost of electricity would remain within the range of the flat demand outlook

What is the IESO doing to help control costs?

- The Independent Electricity System Operator remains committed to planning and operating a reliable power system in the most cost-effective way.
- As a result of Ontario's strong supply situation, there is an increased focus on moving towards competitive capacity procurement models, price bid-down tools and other efficiencies.
 - Prices for the IESO-administered Feed-in Tariff solar projects were recently reduced last year between 23 and 30 percent from 2015 prices, and 50 to 75 percent from the 2009 prices when the FIT and microFIT programs were first introduced.
 - FIT 5 also included a bid-down price option, where applicants could earn points for offering in a price lower than the price schedule offers.

- The introduction of competition in procuring renewable energy in the Large Renewable Procurement helped to drive prices down to secure some of the lowest priced renewable energy the IESO has under contract.
- The DR auction provides a competitive platform for a wide range of demand response resources, allowing more commercial and industrial customers to participate with greater flexibility in response to changing conditions on the power system. The second demand response (DR) auction, held in December 2016, resulted in both increased participation and prices for DR capacity that are 12 to 17 percent lower than those achieved in 2015.
- The market renewal project will address known inefficiencies in the electricity market. The initial findings from the benefits case show potential for \$3.5 billion in cost savings that could be realized by both consumers and suppliers. Cost savings will be achieved through a more efficient utilization of existing assets, greater competition among resources, a reduced need to build new resources and a more flexible procurement process that will better reflect system needs.

Here are a few ways, other than generator contracts, that the IESO is working to control costs:

- Conservation is the most cost-effective supply resource available, at less than four cents per kilowatt-hour (kWh). The IESO works with local distribution companies to make available programs to help residents and businesses reduce their electricity consumption.
- The merger between the IESO and the Ontario Power Authority in 2015 resulted in ongoing annual savings of \$5 million, resulting in a lower fee for ratepayers. The savings come from eliminating overlap in functions, staff reductions, moving to one board of directors and eliminating a downtown office.

Market renewal

** See attached backgrounder in email*