Ontario

MINISTRY OF
ENERGY

Electricity Pricing Programs for Business

Presentation at Professions North Conference

March 10, 2017

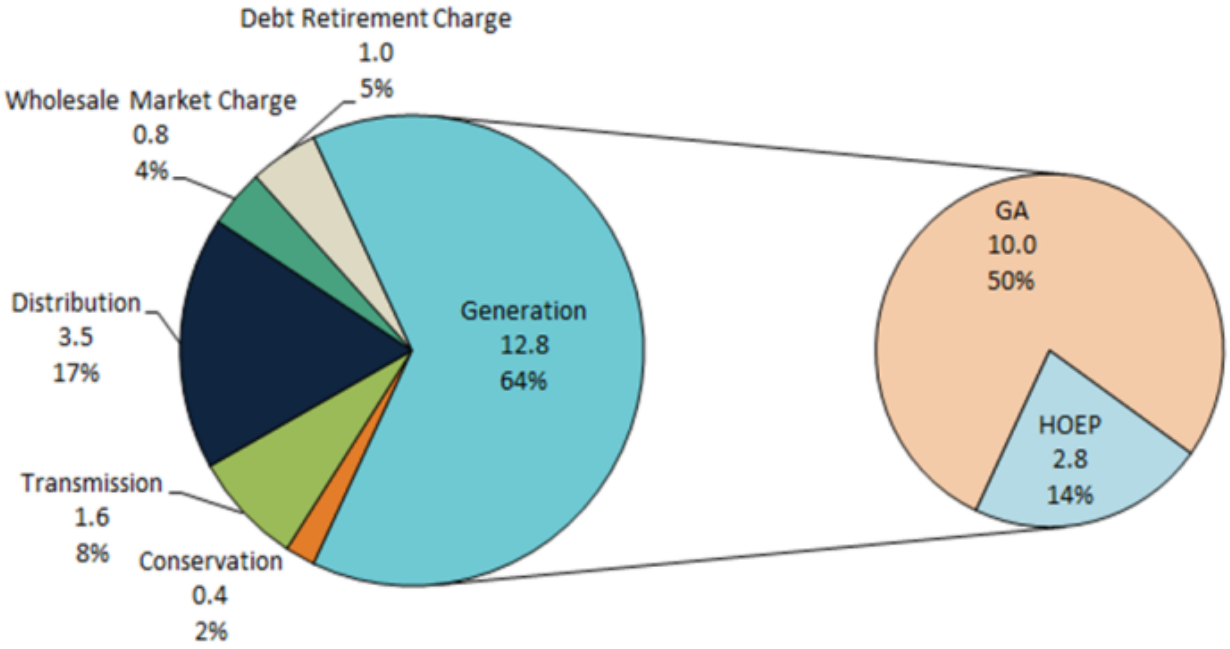
Outline

1. **Global Adjustment (GA) Overview**
2. **Industrial Conservation Initiative (ICI) Expansion**
3. **Northern Industrial Electricity Rate (NIER) Program**

Global Adjustment (GA) Overview

1. GA Overview

In 2015, generation accounted for 64% of total electricity system costs. Total system costs in 2015 were $20 billion.



Source: IESO

1. GAOverview – Paying for Generation

- Payments to generators are made up of two components:

  1. Hourly Ontario Energy Price (HOEP)
     - All generators receive HOEP for the electricity they supply. HOEP is determined by supply and demand conditions in the wholesale market. It generally reflects the marginal cost of electricity generation in the province.
  2. Global Adjustment (GA)
     - Makes up the difference between the revenue generators receive through the wholesale market and their regulated or contracted rates.
     - This difference is paid to generators from GA.

- HOEP and GA are inversely related; as the market price increases, the GA payments decrease. HOEP is influenced by supply, demand and fuel costs.

1. GA Overview – How Global Adjustment is Applied to Consumers

- Global Adjustment costs are charged differently depending on the size of the consumer.

- In January 2011, the province introduced the Industrial Conservation Initiative (ICI), establishing two classes of consumers: Class A and Class B.

Customer Type	Size	Current Consumers	GA Treatment
Class A	Monthly peak demand exceeding 1 MW	Nearly 300	Charged GA on the basis of their contribution to system peak demand during the highest 5 system demand hours of the year.
Class B	All other consumers	About 5 million	Charged GA as a flat rate applied to their consumption.

- On March 2, 2017, the government announced Ontario's Fair Hydro Plan. This includes a proposal to expand ICI further to include electricity consumers in the manufacturing sector with average peak demand exceeding 500 kW and less than 1 MW.

Industrial Conservation Initiative (ICI)

2. ICI Expansion – Overview

- Most electricity consumers in the province pay GA based on the amount of electricity they consume in a month (kWh).

- The Industrial Conservation Initiative (ICI) allows large electricity consumers to lower their electricity costs by reducing their demand during peak hours.
  - Reducing demand during peak hours benefits companies financially and benefits the electricity system by deferring the need for new peaking generation.
  - ICI requirements are established in Ontario Regulation 429/04

- ICI has resulted in some companies realizing savings of an average of up to one-third on their electricity bills.

2. ICI Expansion - Development of ICI over time

- In 2010, when Ontario introduced ICI, the program automatically applied to customers with a peak demand greater than 5 MW and in 2013 was subsequently expanded to allow eligible customers with a peak demand for electricity above 3 MW and less than or equal to 5 MW to opt in to the program.
  - Initially, only Ontario's largest and most energy intensive electricity consumers were eligible for ICI (e.g., mining, steel, pulp and paper, vehicle assembly).
  - Currently, approximately 300 electricity consumers participate in ICI.
- January 1, 2017, new amendments to Ontario Regulation effective, ICI eligibility is expanded to electricity consumers with peak demand greater than 1 MW.
  - All electricity consumers over 1 MW are eligible for the program – potentially 1,000 new participants.
  - Newly eligible consumers in the program would include: small industrial, institutional and commercial category (i.e., automotive supply chain companies, office towers, large shopping malls, greenhouses and others).
- On March 2, 2017, the government proposed a further lowering of the ICI threshold from 1 MW to 500 KW for electricity consumers in the manufacturing sector (i.e., electricity consumers with North American Industry Classification System (NAICS) numbers commencing with the numbers "31", "32" and "33").

2. ICI Expansion – Determining Eligibility

- Customers who participate in ICI as “Class A” electricity consumers, pay GA based on their contribution to the “top five peak Ontario demand hours” over a 12-month base period beginning May 1st of each year. This is known as the peak demand factor.
  - The Independent Electricity System Operator (IESO) establishes the top five demand peaks for a 12-month base period. IESO and Local Distribution Companies (LDCs) then calculate each Class A consumer’s peak demand during these periods.
  - For example, if a Class A consumer is assessed to be responsible for one per cent of Ontario's peak demand for the five highest hours of a set base period, they will be charged for one per cent of total GA costs through the next adjustment and/or billing period.
  - The better that a Class A consumer can forecast the top five hours of peak demand and shift their demand accordingly, the more they will be able to benefit from ICI participation. **Note:** IESO does not forecast the actual peak demand hours but indicative demand forecasts are available (see slide 12).
- To be eligible to participate in the proposed expanded ICI, electricity consumers must have an average peak demand greater than 1 MW during the annual base period from May 1 to April 30.

Base Period Months	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Average
Peak hourly consumption for the Month (MW)	1.2	0.8	1.1	1.5	1.8	2.1	2.5	2.8	2.6	2.4	2.2	1.7	1.89

- **Note:** Data from separate load facilities, even if they are under the same ownership, cannot be aggregated in order for an electricity consumer to qualify for Class A status. For example a consumer that has one load facility with a peak demand factor of 0.8 MW and another load facility with a peak demand of 1.5 MW is not permitted to have the two values added together to qualify for ICI.

2. ICI Expansion – Peak Demand Factor

- Eligible electricity consumers are then assessed on their percentage contribution to the top five hours of peak demand in the province over the twelve-month base period. Using the May 1, 2015 to April 30, 2016 base period as an example (http://www.ieso.ca/Documents/settlements/ICI-Backgrounder-June2016.pdf):

Peak	Day	Hour Ending	Customer's Consumption (MWh/h)	Peak System Consumption (MWh/h)
Peak 1	July 28, 2015	17	3.7	23,023.7
Peak 2	July 29, 2015	17	4.4	22,835.4
Peak 3	August 17, 2015	17	3.9	22,892.2
Peak 4	July 27, 2015	18	4.1	22,323.3
Peak 5	September 3, 2015	14	4.3	22,860.2

- Peak Demand Factor = Electricity consumer's total: 19.8 MWh /Peak System Consumption total: 113,934.900 MWh = 0.00017378.

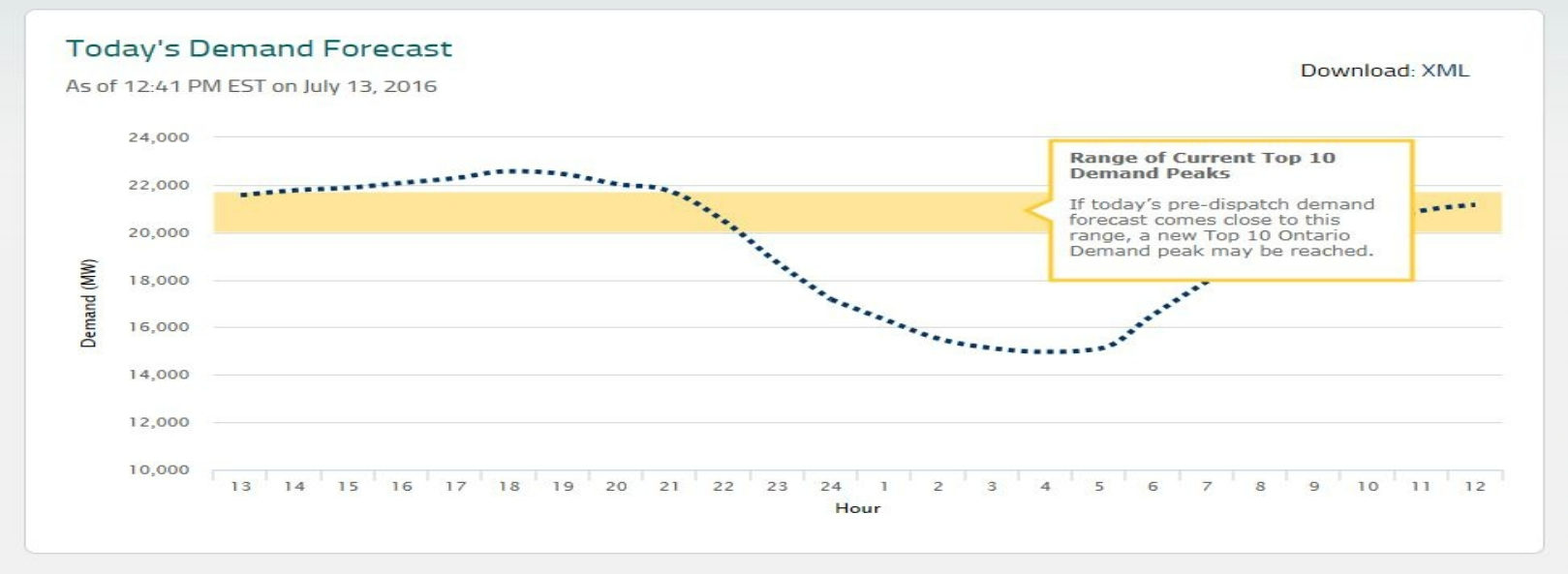
- This factor is used to calculate the Class A electricity consumer's GA charge each month over the twelve month base period (i.e., July 1, 2015 to June 30, 2016 in the above example). **Note:** Monthly GA charges are therefore decoupled from consumption for Class A consumers.

2. ICI Expansion - Peak demand tracking

- This graph forecasts Ontario demand for 24 hours, and helps Class A customers identify whether the forecasted peak demand could be a new Top 10 Ontario Demand peak. Ontario Demand is the best indicator of the coincident peaks for real-time tracking.

- The peak hours tend to occur:
  - In the summer or winter;
  - During a heat wave or cold snap, but not necessarily on the first day; and
  - Between 2:00 pm and 6:00 pm in the summer and between 5:00 pm and 7:00 pm in the winter.

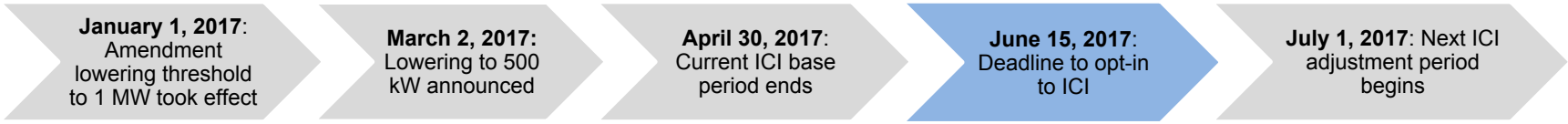
- IESO also publishes forecasts of peak demand six days in advance.



Source: IESO http://www.ieso.ca/Pages/Participate/Settlements/Global-Adjustment-for-Class-A.aspx

2. ICI Expansion – Critical Timelines

- Electricity consumers should note the following dates:



- Electricity consumers Interested in participating in ICI are encouraged to engage with their LDC or IESO:

Independent Electricity System Operator (IESO)

1600-120 Adelaide Street West
Toronto, ON M5H 1T1
Telephone: 905.403.6900
Toll-free: 1.888.448.7777
Email: customer.relations@ieso.ca

PUC Inc.

500 Second Line East
PO Box 9000
Sault Ste. Marie,
P6A 6P2
Customer Care: 705.759.6522
General Inquiries: 705.759.6500
Email: customer.care@ssmpuc.com

Northern Industrial Electricity Rate (NIER) Program

3. NIER – Overview

- The Northern Industrial Electricity Rate (NIER) program was first introduced as a three year program in 2010, following the success of the similar Northern Pulp and Paper Electricity Transition Program in 2007-9

- The NIER Program assists Northern Ontario's largest industrial electricity consumers to reduce energy costs, sustain jobs and maintain global competitiveness.

- The eligibility requirements for NIER include facilities that are :
  - Large industrial electricity consumers located in northern Ontario (i.e., mining or manufacturing sectors);
  - Consuming a minimum of 50,000 MWh per year; and
  - Located within the Districts of Kenora, Rainy River, Thunder Bay, Cochrane, Algoma, Sudbury, Timiskaming, Nipissing, Manitoulin and Parry Sound.

- Participants are required to develop and implement an energy management plan to manage their energy usage and reduce costs.

3. NIER – Who can participate?

- NIER was designed to support Northern economic development by providing a $20/MWh rebate on electricity bills for qualified large industrial consumers located in northern Ontario. NIER participants are eligible for a NIER rebate up to a maximum of $20 million per year (i.e., 1 TWh of electricity consumption).
- NIER is funded through provincial revenues and is administered by the Ministry of Northern Development and Mines (MNDM).
- Currently, the program is fully allocated with 23 facilities from 16 different companies participating in the program. Participants are predominantly from the mining and pulp/paper sectors .
- The 2016/17 extension of the Extended NIER Program is open to current participants (those participants who were enrolled in the program from 2013 to 2016 and entered into a NIER Program Agreement prior to March 31, 2016).

3. NIER – Interested in finding out more?

- For those interested in NIER in the Sault Ste. Marie area you can contact the local Ministry of Northern Development and Mines office:

Ministry of Northern Development and Mines
Northern Development Division,
Roberta Bondar Pl Suite 200,
70 Foster Dr, Sault Ste Marie,
ON P6A 6V8.

General Inquiry: 705-945-5900

Toll Free: 1-800-461-2287

General Questions

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Energy Supply Policy
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Thank you