

ICI & Conservation Opportunities

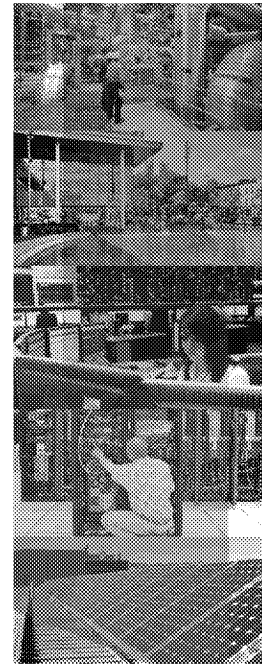
OCC AGM



Who We Are and What We Do

The Independent Electricity System Operator (IESO) works at the heart of Ontario's power system – ensuring there is enough power to meet the province's energy needs in real time while also planning and securing energy for the future. It does this by:

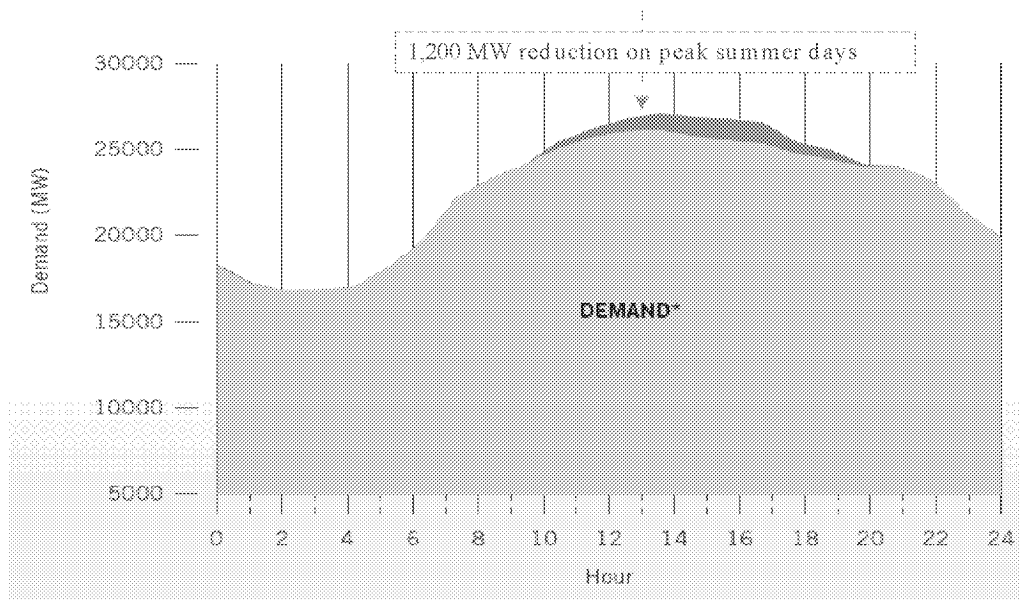
- Planning
- Promoting Conservation
- Ensuring Supply
- Operating the Grid
- Engaging Stakeholders



Industrial Conservation Initiative (ICI)

- Rather than be charged Global Adjustment (GA) on a volumetric basis (total kWh consumption), Class A customers are charged GA based on their percentage contribution to the top five peak demand hours each year.
- The ICI is a form of voluntary demand response: the curtailment of load from the grid during peaks reduces demand, which over the long-term will reduce the need to build additional infrastructure; while customers who curtail will reduce their GA costs

Growing Impact of Demand Response



ICI Timing

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016					BASE PERIOD "peak setting" period							
2017				We are here!	OPT IN/ OUT		ADJUSTMENT PERIOD "billing" period					
2018												

Key Dates:

- May 31, 2017: LDC's issue the peak demand factors for eligible customers
- June 15, 2017: deadline for customers to opt in to Class A
- July 1, 2017: customers that have opted in will be billed as Class A

Consumers in the >1MW and ≤5MW range that wish to participate will need to opt-in to the ICI by June 15, 2017. Consumers >5MW are automatically enrolled and will need to opt-out of the ICI by June 15, 2017.

The Top Five Peaks

- The top five hours of peak demand in a base period
 - The days with greatest amount of MW of electricity withdrawn from the grid.
 - They are established and posted by the IESO at the end of the base period.

Peak Tracker

Top 10 Ontario Demand Peaks from May 1, 2016 to April 30, 2017

New Ontario demand records are updated in real time, verified Ontario demand values (AQEW) published 20 business days later.
as of 8 Mar 2017

Rank	Date	Hour Ending	Ontario Demand (MW) ¹	AQEW (MW)
1	07 Sep 2016	17	23,213	22,527
2	10 Aug 2016	18	23,100	22,637
3	11 Aug 2016	17	22,812	22,318
4	15 Jul 2016	18	22,659	22,189
5	12 Aug 2016	17	22,402	21,904
6	04 Aug 2016	17	22,312	21,868
7	06 Sep 2016	17	22,150	21,641
8	22 Jul 2016	17	22,024	21,665
9	08 Sep 2016	18	21,963	21,200
10	05 Aug 2016	13	21,926	21,408

Calculating Peak Demand Factor

Peak	Hour	Customer's Consumption	Peak System Consumption
Peak 1	HE 17	3.1 MW	24,689 MW
Peak 2	HE 17	4.4 MW	24,008 MW
Peak 3	HE 17	3.9 MW	24,070 MW
Peak 4	HE 14	4.1 MW	24,207 MW
Peak 5	HE 17	4.3 MW	23,595 MW
		Total = 19.8 MW	Total = 120,569 MW

PDF = 0.000164

How Class A Customers are Charged GA

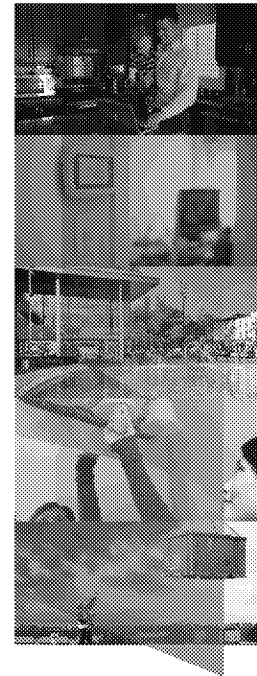
- The Class A customer's Peak Demand Factor (PDF) is used to calculate monthly GA charges during the adjustment period. This is done by multiplying the monthly, Ontario-wide total GA costs by the customer's PDF.

2016	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Total GA (M\$)	1070.6	1063.7	1120.1	1090.7	1060.8	995.3	981.8	878.6	967.7	1062.3	1076.1	965.5

- Example:
 - Total system GA costs for March 2016 were \$1120.1 million
 - Customer PDF is 0.000164
 - Customer's GA costs for March 2016 = \$194,654.84

Putting Conservation First

- Conservation provides the **cleanest and most cost-effective** alternative to new generation
- Conservation lowers peak demand, deferring or avoiding the need to build new infrastructure
- According to Ontario's *Long-Term Energy Plan*, conservation will offset almost all demand growth until 2032
- **Save on Energy** programs offer incentives and programs for residential and business customers



Conservation Programs – Save on Energy



Save on Energy financial incentives can help your home and business offset the costs of replacing and purchasing new energy efficient technology.

For Homes

HEATING & COOLING INCENTIVE	+
COUPONS	+
Buying a New Home	+
Home Assistance Program	+

For Business

Small Business Lighting		HIGH PERFORMANCE NEW CONSTRUCTION	+
Retrofit Program	+	PROCESS AND SYSTEMS	+
Peaksaver Plus®		DEMAND RESPONSE	
AUDIT FUNDING	+	TRAINING & SUPPORT	+
EXISTING BUILDING COMMISSIONING	+	NEW HOME CONSTRUCTION	+
Energy Managers	+	Social and Assisted Housing	



Conservation Programs – Save on Energy

- **Lighting**
 - Improve quality of light and reduce maintenance requirements
- **Controls**
 - Optimize energy use through scheduling and monitoring plant equipment
- **Multi-Site Customers**
 - Streamlined applications are available for businesses with multiple facilities across the province
 - Energy Performance Program: a new pay for performance program that emphasizes operational and behavioural energy efficiency.
- **Energy Managers**
 - Funding available for on-site energy managers
- **Training & Support**
 - Foundational energy management training to professional accreditation
- **Plus many other options – contact your local hydro company**