

Ministry of Energy – Update

Schneider Electric PLUG 2017

October 18, 2017

Overview

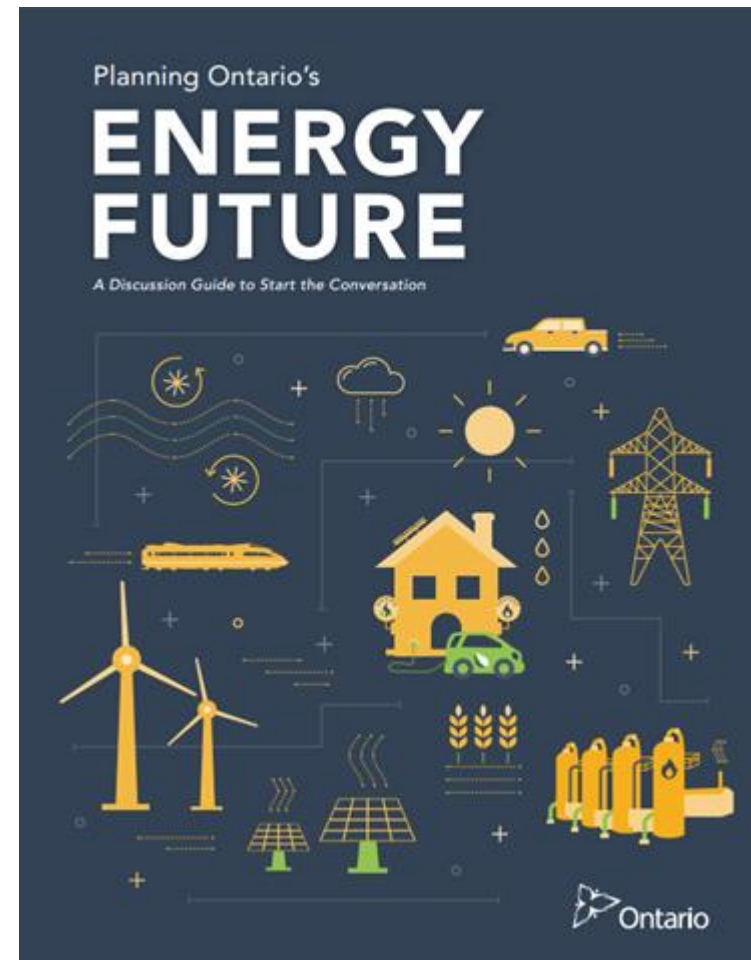
Today's presentation will cover the following items:

1. 2017 Long-Term Energy Plan (LTEP)
2. Ontario's Fair Hydro Plan (OFHP)
3. Global Adjustment (GA) and Industrial Conservation Initiative (ICI)

2017 Long-Term Energy Plan (2017 LTEP)

2017 LTEP

- The 2017 Long-Term Energy Plan (2017 LTEP) will expand the discussion of Ontario's energy future by including a comprehensive review of the province's fossil fuels sector and the supply of oil, gasoline and natural gas.
- The Ministry of Energy consulted and engaged with Ontarians, First Nations and Métis communities and energy stakeholders to get views on the choices that need to be made for Ontario's energy future.



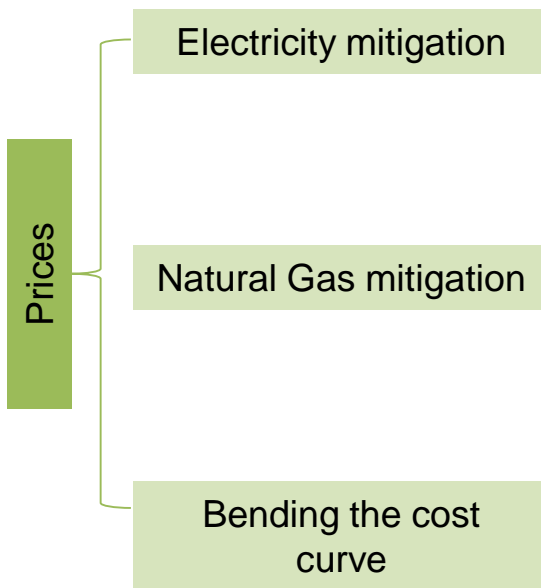
2017 LTEP – Engagement Map

- The Ministry of Energy has held consultations and engagement sessions with Ontarians, First Nations and Métis communities and energy stakeholders across the province.



Produced by Ontario Ministry of Energy, December 2016

What We Heard – Prices



- **Cost Certainty:** Homes/businesses want predictability of costs.
- **Delivery Charge:** Customers not aware what it covers. Unfair that it varies across province.
- **Industrial Competitiveness:** Prices are putting Ontario at a competitive disadvantage in attracting investment. Need more support for all sizes of businesses.
- **LDC Issues:** Customers identifying rising costs; challenge for utilities as they account for ~15% of bill.
- **Support from Tax-Base:** More funding is needed from tax base given supply mix/costs are locked in.
- **Engagement/Communication:** More efforts are needed to explain the different components of bill, why they have gone up and what support programs are available for different customer groups.
- **Utilize Existing Assets:** Government should re-contract with existing supply as contracts expire through competitive price auctions.

What We Heard – Supply (Partial List)



2017 LTEP – Process

- The 2017 LTEP will be developed through the following four stage process:



Phase 1 Technical Reports

Publication of two technical reports on the current state of Ontario's electricity and fuels sectors, each of which also contain 20-year outlooks to guide LTEP engagement and development.



Phase 2 Engagement

The Ministry of Energy is actively seeking feedback from stakeholders and the public through in-person sessions, online tools, and the *Environmental Registry*.



Phase 3 Development

The Ministry of Energy has reviewed feedback collected through the LTEP engagement phase as well as information provided in the technical reports to develop the LTEP.

We are here

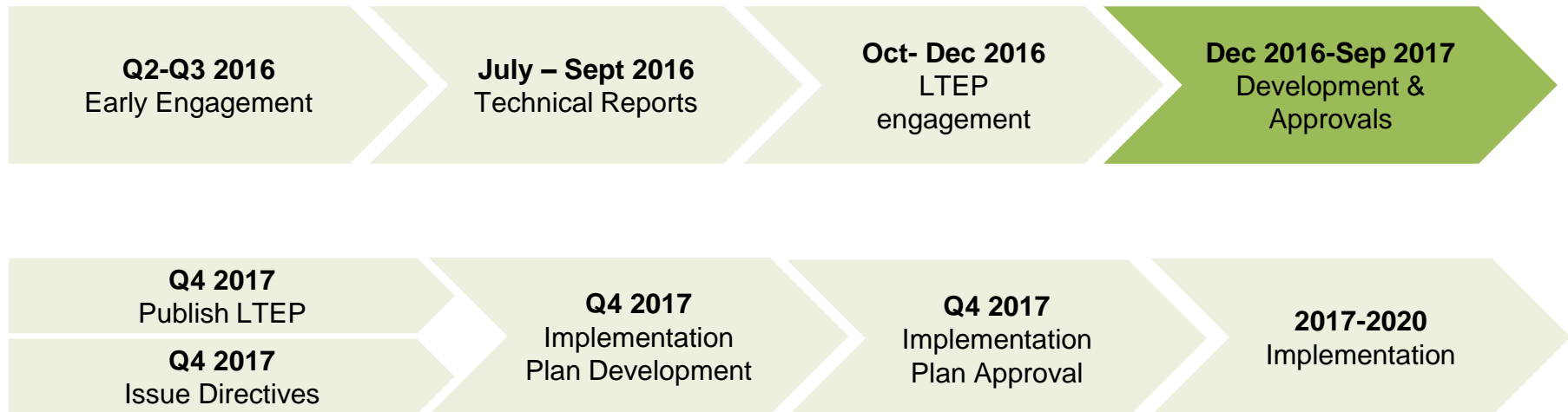


Phase 4 Implementation

The Ministry of Energy's agencies, the Independent Electricity System Operator (IESO) and Ontario Energy Board (OEB) will develop plans for implementing the LTEP's objectives.

2017 LTEP – Timelines

- The Ministry of Energy is developing 2017 LTEP. This process will include:



Ontario's Fair Hydro Plan (OFHP)

Ontario's Fair Hydro Plan

- Ontario's Fair Hydro Plan (OFHP) has lowered electricity bills by 25 per cent on average for residential consumers and feature initiatives to reduce costs for businesses.
- The plan includes the 8% rebate introduced in January and builds on previously announced initiatives to deliver broad-based rate relief on electricity bills.
- All consumers in the province would benefit from at least one of the initiatives under the OFHP.



Shifting Support Program Funding

- Previously, the Rural or Remote Rate Protection (RRRP) program and Ontario Electricity Support Program (OESP) were funded by ratepayers through the regulatory line on bills.
- OFHP has shifted the funding of these programs to provincial revenues.
- Shifting these cost from rate-base to the tax-base saves all consumers approximately \$3/MWh.

Industrial Conservation Initiative

Background – Paying for Generation

- Payments to electricity generators in Ontario 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)
 - Contracted/regulated generators receive additional payments to make up the difference between the revenue generated through the wholesale market and their expected contracted/regulated revenue. This difference is recovered from/returned to GA.
 - Virtually all generators in Ontario receive a contracted or regulated rate.
 - Conservation costs are also paid for 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.

Industrial Conservation Initiative – Expansion

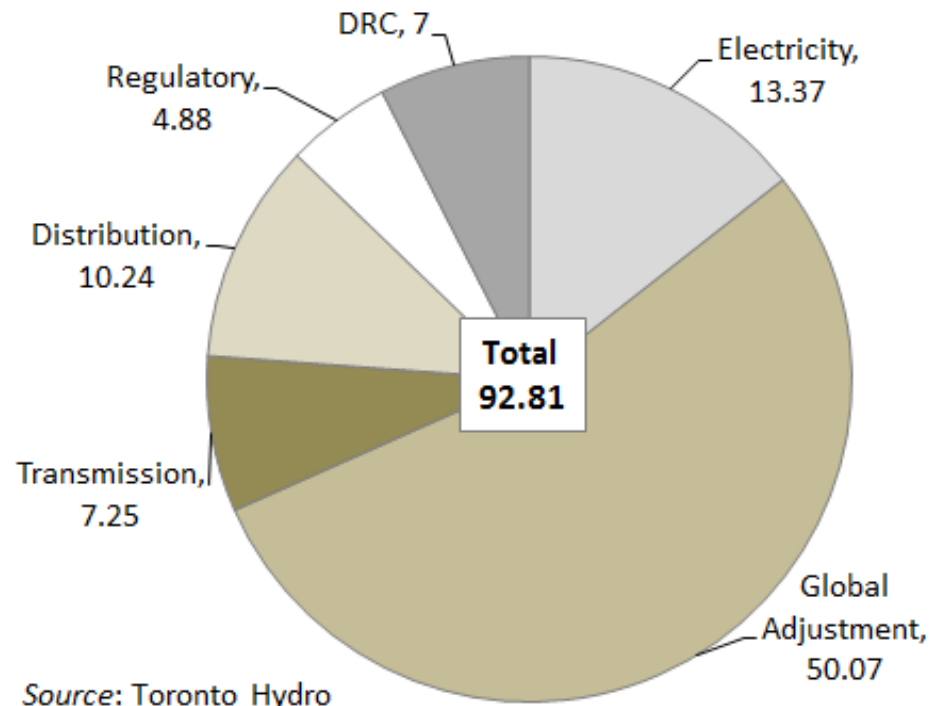
- Electricity consumers that participate in the Industrial Conservation Initiative (ICI) are charged GA based on their contribution to the “top five peak” demand hours in Ontario each year. Participants in ICI are able to reduce their GA costs based on their ability to reduce demand during these five peaks.
- By reducing Ontario’s peak demand for electricity, ICI reduces the need for peaking generation facilities over the long term.
- Effective January 1, 2017, ICI program was expanded to all consumers with an average monthly peak demand of 1 megawatt or greater.
- As part of the OFHP, effective April 13, 2017, consumers with more than 500 kilowatts and less than 1 MW of monthly average peak demand in the manufacturing and greenhouse sectors are eligible for the program.
 - Consumers in this size class with North American Industry Classification System (NAICS) codes 31-33 and 1114 are eligible.
- Consumers that opted-in saw the impact on their July 2017 bill.

Electricity Bill Components for a Manufacturing Consumer

- The chart below shows the electricity price for a typical Ontario manufacturer in year-to-date July 2017 (figures in \$/MWh).

All-In Electricity Price

2 MW Manufacturer



Electricity Prices – ICI Participants

- The table below shows prices for a hypothetical two megawatt consumer in 2016, as an ICI participant and a non-ICI participant.
- The GA rates for the ICI participant column below reflect the average rate paid by participants. Actual rates paid by participants varies based on responsiveness of consumption levels to system peaks.

	ICI Participant	Non-ICI Participant
Electricity	13.37	13.37
Global Adjustment	50.07	99.38
Transmission	7.25	7.25
Distribution	10.24	10.24
Regulatory	4.88	4.88
DRC	7.00	7.00
Total	92.81	142.12

Source: IESO, OEB

Note: Prices reflect a two megawatt consumer located in Toronto with an 85% load factor. Distribution rates exclude rate riders. Global Adjustment (GA) for the ICI participant reflects average Class A.

Peak Demand Factor

- Eligible customers are assessed on their percentage contribution to the top five hours of peak demand in the province over a base period.
- The percentage contribution is also referred to as a customer's coincident peaks.
- The sum of a customer's coincident peaks is divided by the sum of the adjusted system peaks to determine the customer's peak demand factor (PDF):

Peak	Day	Hour Ending	Customer's Consumption (MW)	Peak System Consumption (MW)*	
Peak 1	July 28, 2015	17	3.1	23,023.710	
Peak 2	July 29, 2015	17	4.4	22,835.441	
Peak 3	August 17, 2015	17	3.9	22,892.239	
Peak 4	July 27, 2015	18	4.1	22,323.277	
Peak 5	September 3, 2015	14	4.3	22,860.233	
Total = 19.8 MW				÷ Total = 113,934.900 MW	= 0.00017378

Source: IESO

Anticipating Peaks

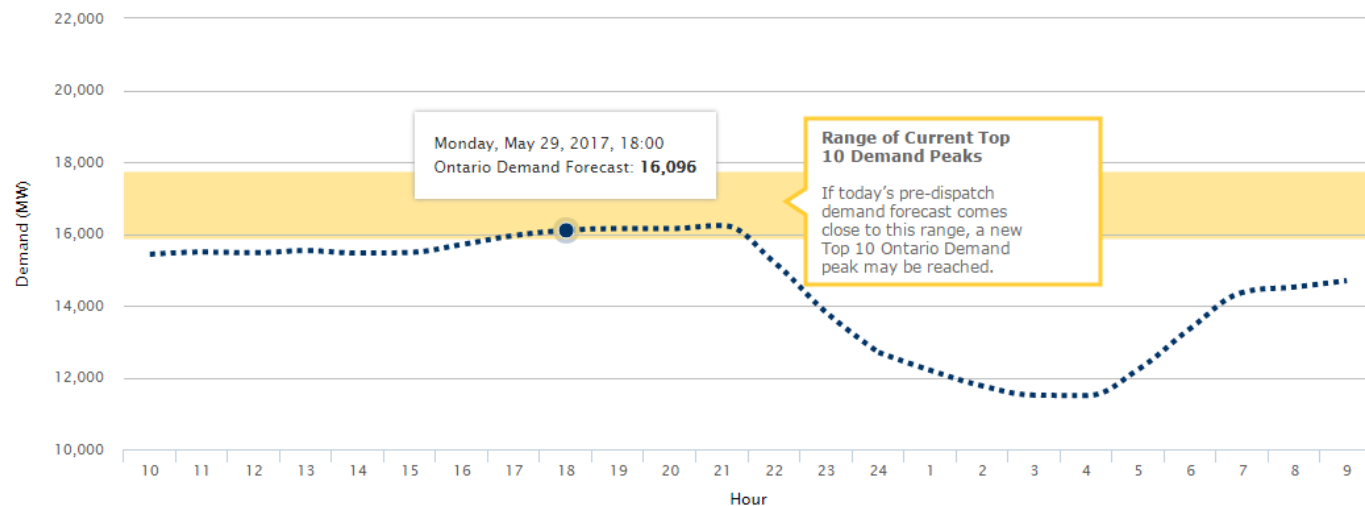
- The better that a Class A consumer can predict the top five hours of peak demand and shift their demand accordingly, the more they will be able to take advantage of this initiative.
 1. **Time of Year:** Electricity demand is largely driven by the weather. Peaks tend to occur during a sustained “heat wave” in the summer or “cold snap” in the winter.
 2. **Time of Day and Days of the Week:** Demand peaks typically occur on weekdays when businesses are in operation. The highest times of demand in a day also vary between seasons.
 - For example, winter peaks tend to be in the early evening when electricity consumers across the province are turning their lights on and making dinner. In the summer, demand tends to be higher in the afternoon when air conditioners are turned up during the hottest time of the day.

Anticipating Peaks (Cont'd)

- Class A-Specific Tools on the Independent Electricity System Operator's (IESO) website (i.e., Class A – GA page):** Electricity consumers will find the current day and week-ahead demand forecasts and the Peak Tracker tool, which shows the top 10 peaks for the current base period updated in real time.

Today's Demand Forecast

as of 9:47 AM EST May 29, 2017



- Adequacy Reports:** These reports provide an hourly forecast of electricity system conditions including Ontario demand for the next day and up to a few weeks ahead. These reports are updated throughout the day as required.

Timing – Key Dates

- Each cycle of ICI starts with a base period. At the end of this period, electricity consumers are assessed for eligibility into ICI.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016					BASE PERIOD →							
2017					OPT IN/ OUT	ADJUSTMENT PERIOD						
2018	→											

- By May 31, consumers who qualify as “Class A” will be notified of their peak demand factor by either their local distribution company (LDC) if they are distribution-connected or by the Independent Electricity System Operator (IESO) if they are transmission-connected.
- By June 15, consumers with a peak demand >500 kW and ≤5 MW can opt-in to ICI by notifying their LDC or IESO and will be charged as a Class A consumer for the following adjustment period.
- By June 15, consumers with a peak demand above 5 MW are automatically considered Class A and must opt-out if they choose not to participate in ICI.

Next Steps

- Release of 2017 LTEP – Fall 2017.
- Implementation of 2017 LTEP – 2017-2020.
- ICI opt-in (for eligible Class A electricity consumers >500 kW and ≤5 MW) – By June 15, 2018.