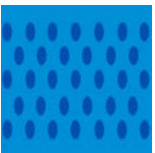


ONTARIO'S
LONG-TERM
ENERGY
PLAN 2017

Delivering Fairness and Choice

Technical Briefing

October 26, 2017





Purpose

- To introduce the Ministry of Energy's 2017 Long-Term Energy Plan and provide details on the following topics:
 1. The LTEP Process
 2. Supply, Demand, and Modelling Assumptions
 3. Key LTEP Themes and Initiatives

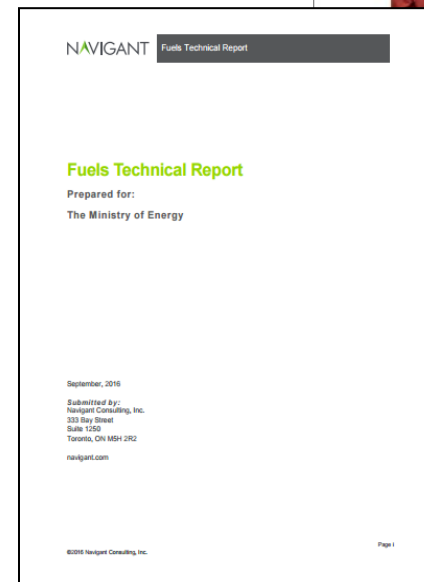
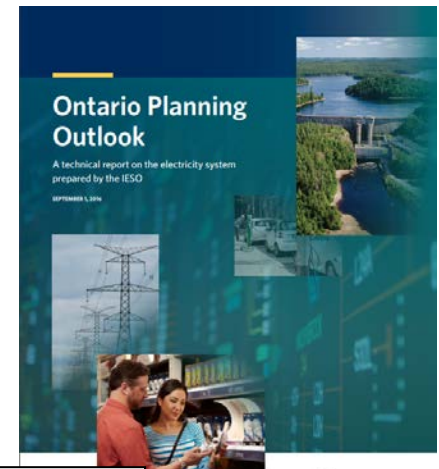


1. The LTEP Process

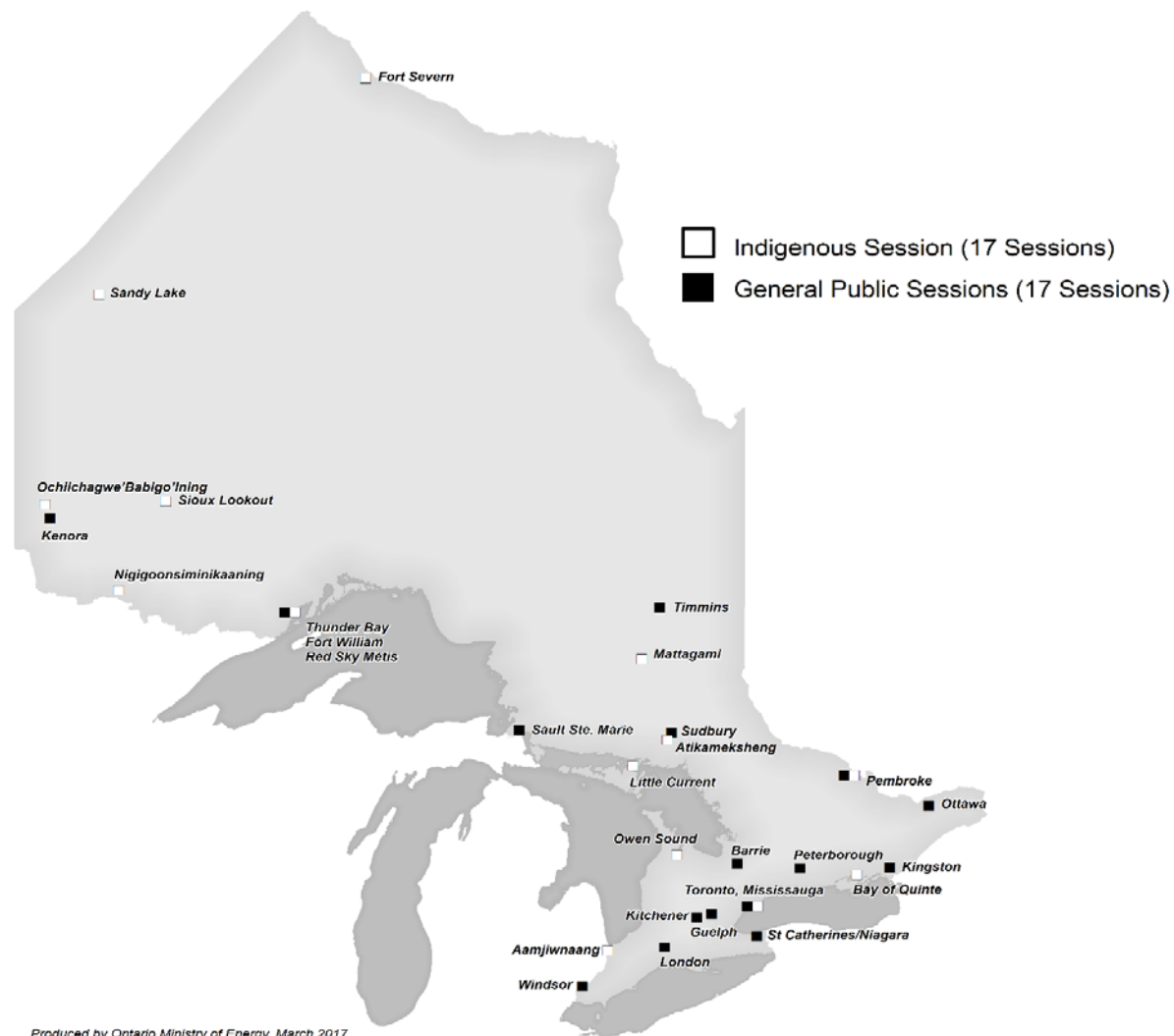
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The Long-Term Energy Planning Process

- In 2016, the Ministry of Energy enshrined in the *Electricity Act, 1998* an enhanced process for developing Long-Term Energy Plans.
- The process includes the following steps:
 - Release of technical reports
 - Engagement Process
 - Development of LTEP and Implementation Directives
 - Implementation Plans



Engagement With Ontarians



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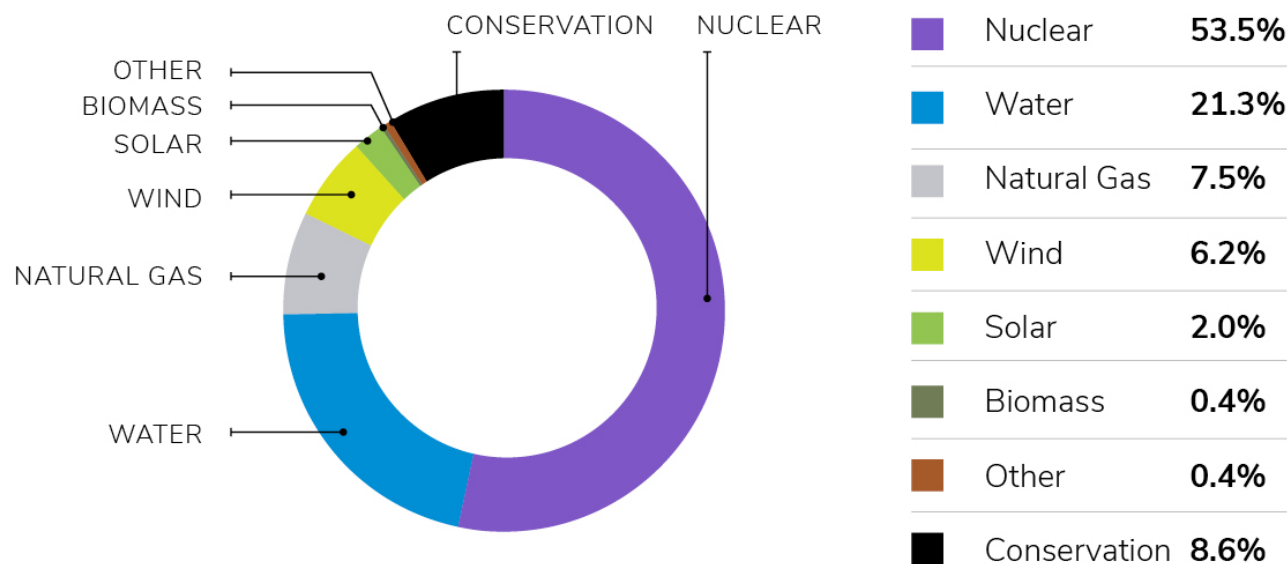


2. Supply, Demand and Modeling Assumptions

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Ontario's Supply Mix

Ontario's Electricity Generation and Conservation, 2016 (TWh)



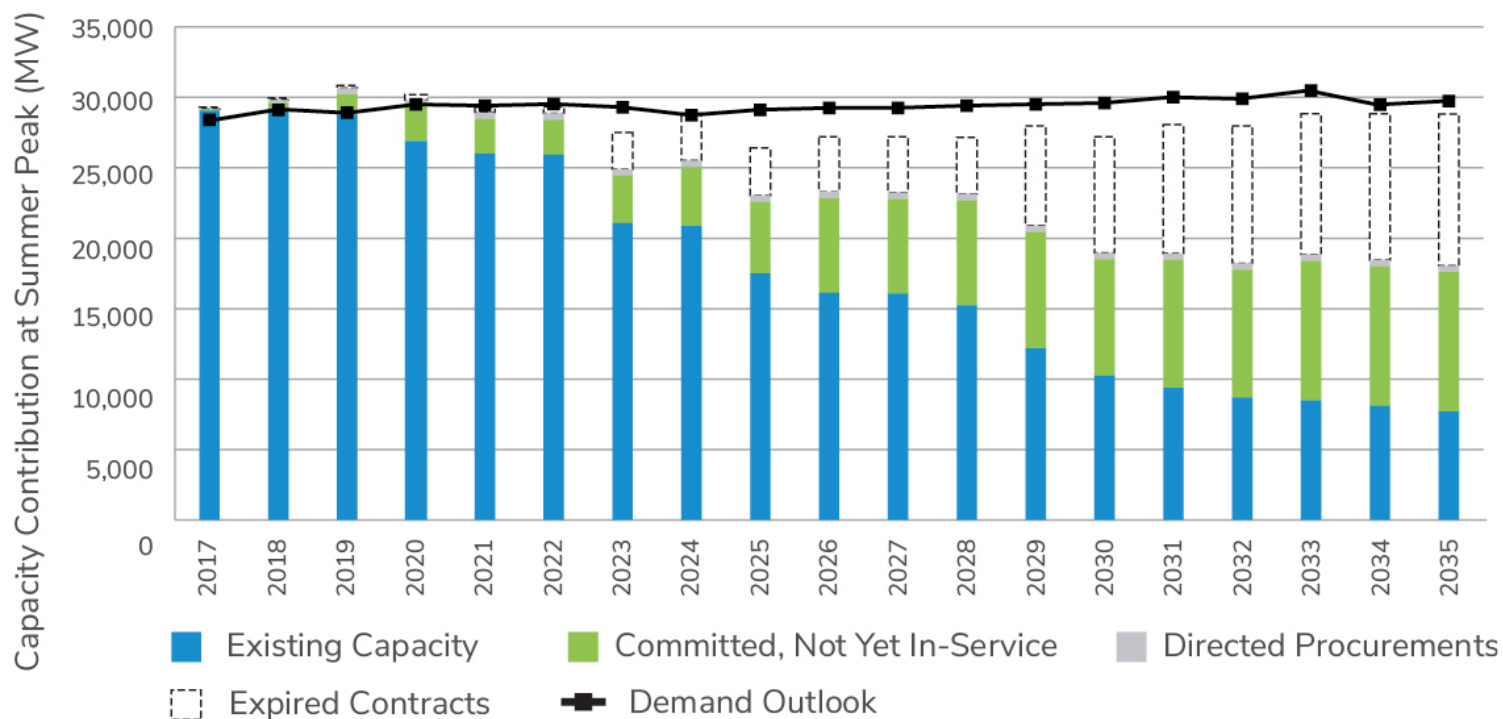
Source: Ministry of Energy

Note: Generation reflects the sum of transmission and distribution connected sources. Conservation value represents persistent savings in 2016 from programs and codes and standards since 2006.

LTEP Pg. 34, Fig. 7

Supply and Demand Outlook

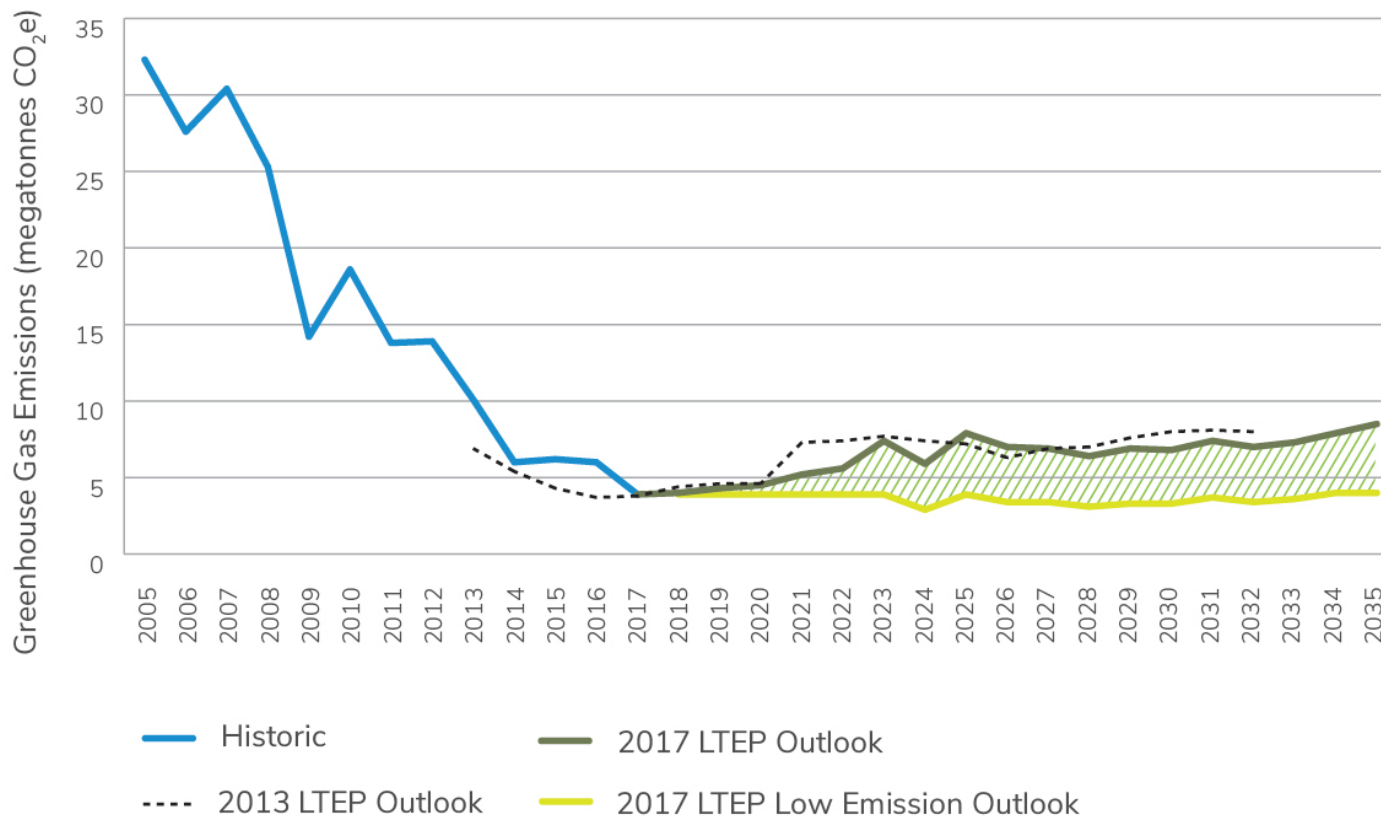
Supply and Demand Outlook (2017 - 2035)



Source: IESO

Electricity GHG Emissions Profile

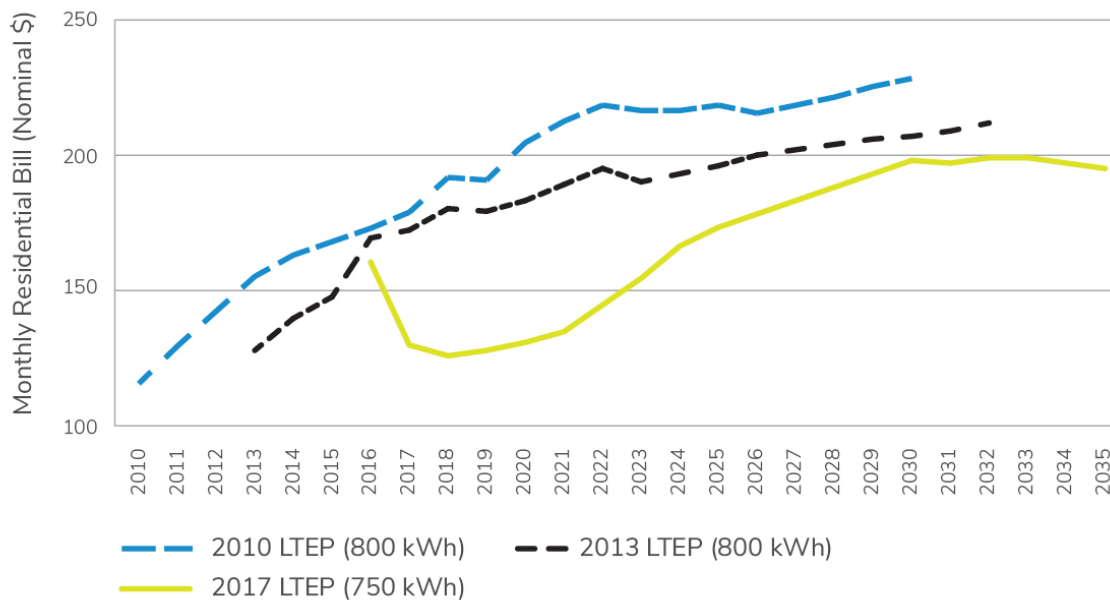
Electricity Sector GHG Emissions Outlook



Source: IESO, Environment Canada and Climate Change

Progress on Residential Electricity Prices

Electricity Price Outlook – Residential Consumers

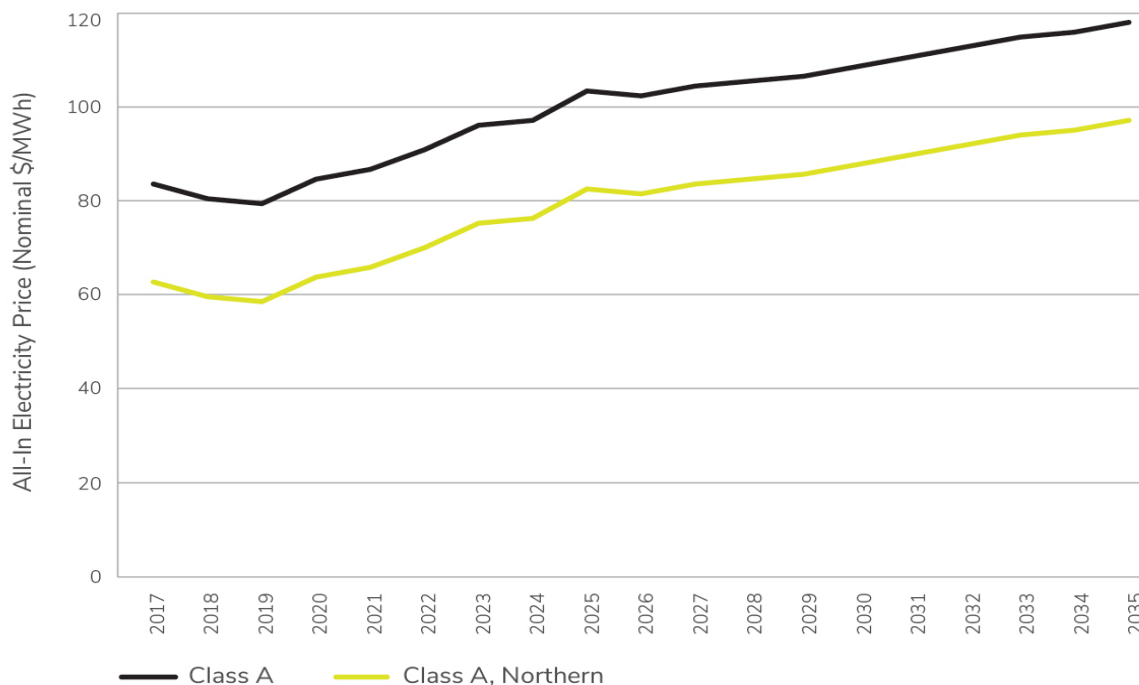


Source: IESO, Ministry of Energy

Note: Forecasts used in *Delivering Fairness and Choice* reflect prevailing patterns of consumption. Between late-2009 and mid-2016, the OEB defined the typical residential customer as a household that consumed 800 kWh of electricity per month. As of May 2016, the OEB changed their typical residential consumption to 750 kWh per month, due to declining household consumption.

Industrial Prices In-Line with Inflation

Electricity Price Outlook – Large Industrial Consumers

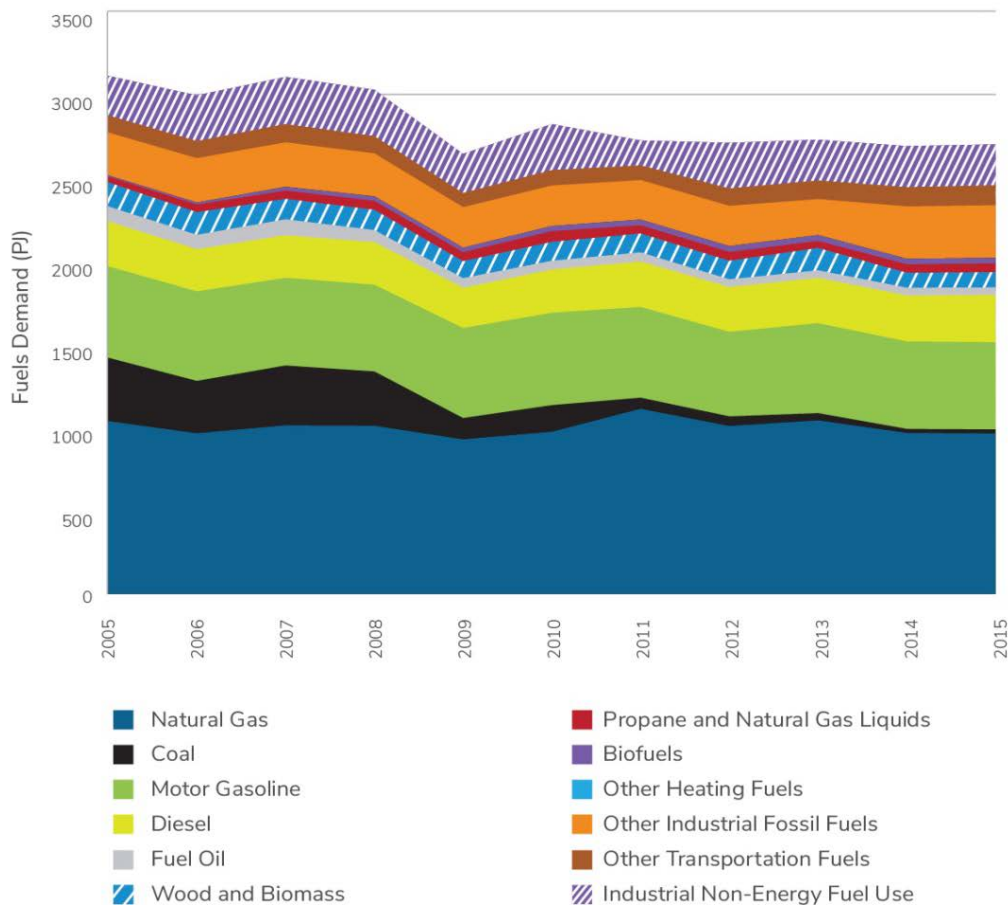


Source: IESO, Ministry of Energy

Note: Commodity price based on forecast Hourly Ontario Energy Price (HOEP) and GA averaged across Class A. Actual prices for Class A are dependent on each consumer's participation under ICI. Class A above reflects a transmission-connected facility. Participants in the NIER Program, which is funded through provincial revenues, receive a \$20/MWh reduction.

Fuels Use in Ontario

Historical Fuels Energy Use



Source: Fuels Technical Report, 2016

LTEP Pg. 41, Fig. 10



3. Key LTEP Themes and Initiatives

Consumer Focus

- The government will enhance consumer protection by giving the Ontario Energy Board (OEB) increased regulatory authority over unit sub-meter providers (LTEP Page 30.)
- Ontario will work with the OEB and LDCs to redesign electricity bills so they provide more of the information consumers say they want. (LTEP Page 83.)
- Reviewing the standards for reliability and quality of service for transmitters and distributors (LTEP Page 80.)
- Reviewing the regional planning process to address challenges and opportunities that have emerged, and be more responsive to community needs. (LTEP Page 138.)

Support First Nation and Métis Leadership and Capacity

- Addressing electricity affordability (LTEP Page 126.)
- Connecting off-grid First Nation communities (LTEP Page 127.)
- Improving availability of conservation programs (LTEP Page 130.)
- Implementing community energy plans (LTEP Page 132.)
- Addressing barriers to financing for Indigenous led or partnered projects (LTEP Page 133.)

Encouraging and Enabling Innovation

- Ontario will create the right environment for utilities to modernize their business and their systems to improve efficiency, reduce costs, and give customers more choice. (LTEP Page 79.)
- The Smart Grid Fund will be renewed to support innovative companies and help to increase understanding of how smart grid can benefit the system and customers (LTEP Page 66).
- The government will enable third party ownership of net metering systems (LTEP Page 58).
- A program will be developed that will support innovative renewable distributed generation projects, including virtual net metering demonstration projects. (LTEP Page 59)

Conservation and Energy Efficiency

- Strengthening Commitment to Conservation and Energy Efficiency:
 - Encouraging energy efficiency on the distribution system (LTEP Page 102).
 - Enabling demand response to compete with other resources (LTEP Page 94).
 - Expanding Green Button (LTEP Page 98).

Responding to the Challenge of Climate Change

- Align conservation efforts with climate change goals:
 - Phase out Combined Heat and Power using supplied fossil fuels (LTEP Page 103);
 - Coordinate existing conservation programs with new low carbon GreenON programs (LTEP Page 103).
- Transition to a low-emission economy:
 - Use our clean electricity system to decarbonize the transportation sector and other sectors (LTEP Page 37); and
 - Shift to renewable natural gas, power-to-gas, lower-carbon gasoline and diesel (LTEP Pages 75, and 113).



Questions?

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