

MEETING NOTE

NAME OF ORGANIZATION: Association of Major Power Consumers in Ontario (AMPCO)

DATE/TIME OF MEETING: February 14, 2017

LOCATION OF MEETING: TBD

PURPOSE: To better understand AMPCO's concerns in the context of LTEP.

ATTENDEES: Minister of Energy
Glenn Thibeault

AMPCO
Colin Anderson, President

ANTICIPATED AGENDA ITEMS:

1. Affordability / Electricity Prices
 - Price Mitigation Programs
 - Assess Existing Generation Contracts
 - Rate Base and Tax-Base
 - Market Renewal
 - Regulated Generation and Transmission
2. Reliability
3. Climate Change / Cap and Trade
4. Conservation and Demand Response
5. Long Term Energy Plan Update

NOTES ON AGENDA ITEMS:

1. Affordability / Electricity Prices

- AMPCO's primary concern is electricity affordability. AMPCO is in favour of more price mitigation programs, "re-evaluating" the terms of generation contracts and proceeding with the IESO's Market Renewal initiative.
- AMPCO also suggests that tax revenues could be allocated to electricity system costs to reduce prices.

Suggested Response:

- **Thank you for your LTEP submission. Electricity affordability is a top priority for government.**
- **Indicative industrial electricity prices in Ontario are within five percent of the United States average as reported by the U.S. Energy Information Administration.**
- **Government has taken a number of actions to reduce electricity ratepayer costs.**
 - **As just one example, suspending the second round of the Large Renewable Procurement (LRP II) process and the Energy-from-Waste Standard Offer Program is expected to save up to \$3.8 billion in costs relative to the LTEP 2013 forecast.**
- **The Debt Retirement Charge (DRC) is scheduled to end for commercial, industrial and other non-residential electricity users on April 1, 2018.**
- **While I recognize that some of your members have process or equipment limitations, the Industrial Conservation Initiative has been successful at lowering industrial electricity costs.**
- **Government has already allocated significant tax revenues to the electricity system through the 8% rebate for eligible residential, small business and farms and the Northern Industrial Electricity Rate Program.**
- **I agree that assessing existing generation contracts may provide opportunities to reduce electricity prices. I am pleased to report that the recently negotiated replacement NUG contracts will generate ratepayer savings of up to \$53 million over the next two years.**
- **On the treatment of the regulated businesses of OPG and Hydro One:**
 - **The OEB is an independent quasi-judicial tribunal that determines allowed return-on-equity (ROE), deemed capital structure and allowed capital spending.**
 - **Hydro One's independent board of directors has a duty to act in the best interest of Hydro One's shareholders and seek a commercial rate of return in the company's business. Through the Governance Agreement between the Province and Hydro One, the Province committed to act as shareholder and not manager following the initial public offering (IPO).**

- **The Province must balance the interests of ratepayers and taxpayers in governing how OPG conducts its business and affairs while working to ensure OPG’s long-term financial sustainability and ability to meet its obligations.**

2. Reliability

- **AMPCO has highlighted concerns about electricity system reliability, including power quality, in their LTEP consultation submission and may raise these issues.**
- **According to AMPCO, many of its members are now experiencing more transient power issues, with increasing damage to sensitive equipment.**

Suggested Response:

- **The Ministry and its agencies are taking steps to ensure continued reliability. As an example of that commitment, the IESO’s *Enabling System Flexibility* stakeholder engagement is exploring ways to acquire about 1,000 MW of additional flexibility.**
- **Maintaining a reliable power grid is one of Ontario’s top electricity priorities.**
- **As you know we are developing Ontario’s next Long-Term Energy Plan (LTEP). We are working closely with agencies and stakeholders and we welcome AMPCO’s input in this process.**
- **With regard to reliability and power quality, I am interested to discuss any specific suggestions you might have for how power quality issues should be addressed and resolved.**
- **As you are aware, Ontario’s transmission system is governed by a “beneficiary pay” principle. This approach protects ratepayers from paying for infrastructure which benefits only a few customers and will need to be considered with respect to investments related to enhancing power quality.**
- **In general this is an important principle because it helps to keep electricity rates from increasing, which benefits families and businesses across the province.**

3. Climate Change / Cap and Trade

- **AMPCO suggests that efforts to de-carbonize the province’s economy must be mindful of the impact on electricity prices.**

- Given the small impact of the Ontario electricity sector on climate change, AMPCO submits that government should consider excluding the electricity sector from the Climate Change Action Plan post-2020.

Suggested Response:

- **As a result of eliminating coal-fired electricity generation and replacing it with refurbished nuclear, natural gas and renewables, Ontario's electricity system is well positioned as the province moves towards a low carbon economy.**
- **Government will outline its plan for fighting climate change post-2020 in the next CCAP, which will be developed as we approach 2020.**

4. Conservation and Demand Response

- In its 2017 LTEP submission, AMPCO recommends that the government continue its commitment to retaining and growing demand response (DR) as an important component of the 2017 LTEP.
- AMPCO indicates that Ontario is in a strong supply situation and states that "affordability and reliability" are more important objectives than conservation. AMPCO also emphasizes that electricity conservation programs must be delivered in a cost effective and efficient manner.

Suggested Response:

- **Ontario is aiming to use Demand Response (DR) to meet 10% of peak demand by 2025. To encourage development of DR in Ontario, IESO has evolved existing DR programs to a market-based approach, and is running DR pilots to learn more about the operational capabilities of DR.**
- **All electricity conservation programs under the Conservation First Framework are required to be cost-effective, with exceptions for low-income, educational and First Nations programs.**

5. Long-Term Energy Plan Update

- The Ministry of Energy is developing the next Long-Term Energy Plan (LTEP), which sets out the direction for Ontario's energy future.
- The Ministry is currently reviewing feedback from the LTEP engagement process that took place from October 2016 to January 2017.

- AMPCO's LTEP submission provides a number of recommendations focusing on affordability and reliability.

Suggested Response:

- **The Ministry thanks Association of Major Power Consumers in Ontario for its thoughtful LTEP submission and for attending the LTEP stakeholder session in Sudbury.**
- **Outlooks provided in technical reports prepared by the IESO and Navigant will be used along with consultation feedback to plan the future of Ontario's energy system and develop the government's plan to maintain a reliable supply of clean, affordable electricity.**
- **The Ministry of Energy expects to release the next LTEP in spring 2017.**

APPENDIX:

1. Affordability/Electricity Prices

Background:

Rate Mitigation:

- Measures in place to mitigate industrial electricity prices include:
 - a. Industrial Conservation Initiative (ICI);
 - b. Northern Industrial Electricity Rate Program (NIERP);
 - c. Industrial Accelerator Program (IAP);
 - d. SaveONenergy for Business; and
 - e. Demand Response
- See background on c, d and e in Conservation and Demand Response appendix (item #4).

Industrial Conservation Initiative (ICI)

- 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.

Northern Industrial Electricity Rate Program (NIERP)

- NIERP provides a price reduction of two cents per kilowatt hour for qualifying consumers.
- Ontario has committed to a permanent NIERP, with continued investment of up to \$120 million per year.

Regulated Generation and Transmission

- OPG is 100% provincially-owned, and its net income is consolidated on the Province's financials and helps fund initiatives across Ontario.
 - Any reduction in the ROE ask through OPG's rate application would have a direct impact on the net income which would flow to the Province.
 - OPG issues project-level debt to the private sector to finance projects such as the Peter Sutherland Sr. and Lower Mattagami hydroelectric projects and is accountable to those debt holders as well.

- Hydro One is now a broadly held publicly traded company and is accountable to its shareholders in business decisions
 - The ROE Hydro One is allowed to request through rates is set by the independent regulator, the Ontario Energy Board (OEB).
 - Through the Governance Agreement between the Province and Hydro One, the Province committed to act as shareholder and not manager following the initial public offering (IPO).

Market Renewal

- The IESO's *Market Renewal* stakeholder engagement is allowing stakeholders to participate in and provide feedback on the development of a work plan for renewing Ontario's electricity market design.
- The work plan will set out specific market design changes to be implemented over the coming years and will define target timelines for completing the work.
- The plan will allow IESO and stakeholders to address known challenges with the existing design while also laying a solid foundation for a more dynamic energy market to meet future needs.

Table 1: Indicative Retail Industrial Electricity Prices – North America (Canadian cents/kWh)

2016 Industrial Electricity Prices (Canadian ¢/kWh)							
Jurisdiction	Cost	Jurisdiction	Cost	Jurisdiction	Cost	Jurisdiction	Cost
1 Manitoba	4.18	17 Kentucky	6.85	33 West Virginia	8.36	49 Florida	9.65
2 Alberta	4.41	18 Tennessee	6.90	34 Ontario	8.57	50 Maine	9.87
3 Quebec	4.90	19 Mississippi	6.95	35 Michigan	8.61	51 Nova Scotia	10.02
4 Newfoundland	4.90	20 New Mexico	7.10	36 Virginia	8.61	52 Maryland	10.12
5 Washington	5.64	21 Arizona	7.22	37 Ohio	8.65	53 Delaware	10.28
6 Oklahoma	5.67	22 New Brunswick	7.25	38 Pennsylvania	8.84	54 Vermont	12.33
7 Montana	5.72	23 South Carolina	7.39	39 Colorado	8.86	55 New Jersey	12.36
8 British Columbia	6.08	24 Oregon	7.39	40 Wyoming	8.91	56 California	13.64
9 Texas	6.17	25 Alabama	7.56	41 North Dakota	9.02	57 New Hampshire	15.81
10 Louisiana	6.18	26 New York	7.63	42 Minnesota	9.05	58 Connecticut	16.49
11 Nevada	6.37	27 North Carolina	7.67	43 PEI	9.12	59 Massachusetts	16.59
12 Iowa	6.44	28 Utah	7.67	44 Indiana	9.13	60 Rhode Island	17.20
13 Canadian Average	6.61	29 Idaho	7.81	45 Wisconsin	9.43	61 Alaska	20.61
14 Georgia	6.64	30 Missouri	7.94	46 Kansas	9.47	62 Hawaii	24.72
15 Saskatchewan	6.71	31 Illinois	8.03	47 Nebraska	9.47		
16 Arkansas	6.75	32 U.S. Average	8.18	48 South Dakota	9.47		

Note: Estimates may differ from actual costs to a consumer based on location, connection, and operational characteristics. Prices exclude taxes and participation in any applicable jurisdictional benefit programs.

The Ontario industrial price is based on April 2016 data and includes the Hourly Ontario Energy Price, Class A Global Adjustment, Debt Retirement Charge, and transmission and regulatory charges.

All other Canadian prices are from the Hydro Quebec Rate Comparison for rates effective April 1, 2016 for select local distribution companies servicing specific cities. Where Hydro Quebec reports prices for two cities in a province (e.g. Calgary and Edmonton), an average of the two is used, in provinces where only one city is reported (e.g. Vancouver in BC, Montreal in QC), that one price is used to represent the province for indicative comparison purposes.

American jurisdictions reflect April 2016 data from the US Energy Information Administration's survey of approximately 500 of the largest electric utilities. The price reflects the average revenue reported by the electric utility from electricity sold to the industrial sector. The value represents an estimated average retail price, but does not necessarily reflect the price charged to an individual consumer. Prices are converted at an exchange rate of 1 USD = 1.28 CAD.

Reducing Costs for Ratepayers

The government has also taken a number of actions to reduce electricity ratepayer costs, including:

- Renegotiating the Green Energy Investment Agreement (GEIA) with Samsung, reducing contract costs by \$3.7 billion.
- Deferring the construction of two new nuclear reactors at Darlington, avoiding an estimated \$15 billion in new construction costs.
- Maximizing the value of our existing nuclear fleet by starting Bruce refurbishments in 2020 instead of 2016, thus helping to achieve \$1.7 billion in savings relative to the 2013 Long-Term Energy Plan (2013 LTEP) forecast, and by continuing to operate Pickering up to 2024, pending regulatory approvals, which could save ratepayers as much as \$600 million.
- Reducing Feed-In Tariff (FIT) prices through annual price reviews, saving ratepayers at least \$1.9 billion.
- Transforming our procurement strategy for large renewable projects by introducing the competitive Large Renewable Procurement (LRP) process to drive down prices. As a result of lower prices and revised procurement schedules, LRP I costs were approximately \$1.5 billion lower than the 2013 LTEP forecast.
- Suspending the second round of the Large Renewable Procurement (LRP II) process and the Energy-from-Waste Standard Offer Program, expected to save up to \$3.8 billion in costs relative to the LTEP 2013 forecast.

2. Reliability

Background:

AMPCO's LTEP Feedback

- AMPCO's LTEP submission notes that many of its members are now experiencing more reliability and power quality issues than a decade ago, with increasing damage to sensitive equipment, and cites the replacement of coal-fired generation as a possible cause warranting further investigation.
- AMPCO notes the distinction between reliability and adequacy (AMPCO is concerned with the former).
 - Adequacy has to do with the ability of the electricity system to supply electrical demand at all times.
 - Reliability means the ability to delivery electricity within reliability standards and in the amount desired and means.
- AMPCO recommends that reliability issues be investigated to reduce their current impact on industrial operations and to ensure that existing undesirable effects are not unintentionally amplified as a result of future LTEP changes.

Customer Reliability Standards

- Ensuring the quality and reliability of customer electricity service is a key objective of the OEB, which has set out a number of reliability requirements that are applied through electricity transmitter and distributor license obligations. In general, these include:
 - Distributors must report system-wide reliability performance statistics.
 - Transmitters and distributors are required to take responsive actions to reliability complaints that are raised by customers.
 - Transmitters and distributors must account for changes in reliability performance when the Board evaluates their application for a rate order.
 - For transmitters, additional international reliability standards apply (e.g., resilience to physical and cyber threats to the system).
- Transmitters and distributors are generally not required to provide guarantees of specific power quality and reliability performance for individual industrial customers. In fact, typical Conditions of Service of a transmitter or distributor

specifically highlight that customers must account for risks related to power interruption.

- Like most other jurisdictions, Ontario allocates connection upgrade costs according to “beneficiary pay” principles. This approach protects ratepayers from paying for infrastructure that benefits only a few customers.
- Customers that require a high level of service quality must pay to upgrade their connections or develop their own on-site power systems (e.g., backup generation, ride-through equipment) rather than have these costs applied to ratepayers.
- In its *Enabling System Flexibility* stakeholder engagement, IESO has identified an emerging need for the ability to schedule resources capable of responding within a short time frame in order to manage forecast uncertainty in the real-time energy market.
- The IESO will engage with stakeholders to explore a range of potential solutions for enhanced flexibility in the electricity system.

3. Climate Change/Cap and Trade

Background:

Cap and Trade – Impact on Electricity Market and Generators

- MOECC, with ENERGY and IESO staff support, is not proposing to provide free allocations to the electricity sector.
- The compliance obligation (point of regulation) is set at the fuel distribution level for all electricity generators.
- Gas LDCs will be responsible for managing carbon allowances for their customers.
 - All emissions from electricity generation would be subject to a carbon price through the cost of fuel.
 - The wholesale hourly electricity price (HOEP) is expected to increase as a result of natural gas generators including the cost of carbon in their offers.
- IESO has started to consult with electricity generators with respect to amending certain natural gas generator contracts to facilitate the implementation of the cap and trade program.

- All IESO-contracted natural gas-fired generators are expected to be impacted by cap and trade. IESO holds 51 natural gas-fired contracts for a total of approximately 9,300 MW, including CES/ACES, CHP I, CHPSOP, NUGs and others.
- The cost of carbon passed on from gas distributors will increase the marginal cost to generate electricity, which can have implications with for the parameters used for determining monthly contract payments to generators.

4. Conservation and Demand Response

Background:

- See background on LTEP DR commitments and status of DR.
- Examples of industrial electricity and natural gas conservation programs that could be applicable to AMPCO's membership include (see more details on programs and cost-effectiveness testing in the appendix):
 - Industrial Accelerator Program (administered by IESO)
 - Process and Systems Upgrades Program (administered by IESO and LDCs)
 - Demand Response Auction (administered by IESO).
 - Prescriptive Incentive Offer (administered by Enbridge Gas and Union Gas)
 - Custom Incentive Offer (administered by Enbridge Gas and Union Gas)
 - Large Volume Program (administered by Union Gas)

Conservation Programs

- The IESO, which is responsible for overseeing the delivery of electricity conservation programs, uses industry-standard tests (Total Resource Cost test and Program Administrator Cost test) to screen conservation program proposals for cost-effectiveness, and to evaluate, measure and verify the associated electricity and peak demand savings.
- Examples of industrial electricity and natural gas conservation programs that could be applicable to AMPCO's membership include:
 - The Industrial Accelerator Program assists eligible transmission-connected companies to fast track capital investment in major energy conservation projects. The program provides financial incentives to encourage investment in innovative process changes and equipment retrofits to reduce electricity consumption on the provincial system and to help companies become more competitive by positively impacting their bottom line. Participants can receive incentives that will cover up to 70% of eligible project costs.

- Process and Systems Upgrades Program is an industrial electricity conservation program available to distribution-connected industrial and commercial. The program helps organizations with complex systems and processes identify, implement, and validate energy efficiency projects from start to finish. Participants can receive incentives that will cover up to 70% of eligible project costs.
- Prescriptive Incentive Offer (Enbridge Gas and Union Gas) provides financial incentives for a set list of natural gas reducing measures (e.g. furnaces, water heaters, ovens etc.), typically with pre-determined incentive amounts and estimated savings.
- Custom Incentive Offer (Enbridge Gas and Union Gas) provides financial incentives for customized natural gas reduction projects.
- Large Volume Program (Union Gas) provides large volume customers a dedicated incentive budget to spend on energy savings projects.

Demand Response

- In LTEP 2013, the government set a long-term conservation target of 30 TWh in 2032 which at the time represented a 16% reduction in forecast gross demand for electricity. LTEP 2013 also noted that Ontario would aim to use DR to meet 10% of peak demand by 2025.
- The IESO holds annual Demand Response auctions which provide payments to successful participants that commit to reducing their consumption when called upon to do so. Participation in the DR Auction is open to new and existing DR participants in Ontario with peak load greater than 1 MW, including industrial consumers and aggregators.
- In December 2016, the IESO held its second demand response auction. Approximately 455 MW were procured for the summer commitment period (May 2017 to October 2017) and approximately 478 MW for the winter commitment period (November 2017 to April 2018)

5. Long Term Energy Plan Update

Background:

- The Ministry held in-person stakeholder and public open houses in 17 communities across Ontario. There were also 17 parallel sessions in Indigenous communities.
- The Ministry received over 1500 submissions through the Environmental Registry, as well as feedback through emails and other channels.

- Mr. Colin Anderson and Mr. Mark Passi attended the LTEP engagement session in Sudbury on October 27, 2016.
- AMPCO's provided an LTEP submission on December 16, 2016. Its recommendations and additional background regarding Item 1 can be found in the appendix.