

Deputy Ministers' Panel on Cap and Trade

Date: November 7, 2017

Time: 8:30 AM – 9:30 AM.

Venue: Mississauga Grand

Address: 35 Brunel Road, Mississauga

Organizer's contact details: Terry Ann Adamo, CME's Operation: (647) 244-1663

The following questions were provided by CME:

Q. The LTEP showed progress from earlier plans on class A industrial rate competitiveness – Meanwhile manufacturers continue to report 1. challenges with rates – particularly Smaller manufacturers and 2. Challenges hitting the 5 peaks. CME is calling for a more competitive and streamlined manufacturing industrial rate for Ontario – is this something that would be considered?

Ontario recognizes the importance of electricity prices for industry. Currently, the electricity price for industrial electricity consumers in Ontario is lower than the average U.S. price as reported by the U.S. Energy Information Administration.

All customers with monthly peak demand greater than one megawatt now qualify, as well as manufacturers and greenhouses above 500 kilowatts.

ICI participants can lower their bills by an average of one-third by reducing consumption during peak hours. Government is committed to educating and informing manufacturers about cost saving programs including ICI. As an example of this commitment, the Ontario Chamber of Commerce (OCC) has partnered with the Ministry of Energy to lead an education campaign to improve awareness of energy conservation and cost saving programs available to the business community.

Smaller manufacturers are benefitting from the decision to shift cost recovery for OESP and the majority of RRRP from electricity bills to provincial revenues, lowering regulatory charges for everyone by approximately \$3/MWh.

Government is removing the Debt Retirement Charge (DRC) for commercial, industrial and other non-residential electricity users on April 1, 2018, nine months earlier than previously estimated. This will save these consumers another \$7/MWh.

The government will also continue to look for other opportunities to reduce costs for these consumers.

Q. Smaller manufacturers are still too small for ICI and too large for the RPP fair hydro plan – is the government looking at any further mitigation for those groups?

All customers with monthly peak demand greater than one megawatt now qualify, as well as manufacturers and greenhouses above 500 kilowatts.

Smaller manufacturers are benefitting from the decision to shift cost recovery for OESP and the majority of RRRP from electricity bills to provincial revenues, lowering regulatory charges for everyone by approximately \$3/MWh.

Government is removing the Debt Retirement Charge (DRC) for commercial, industrial and other non-residential electricity users on April 1, 2018, nine months earlier than previously

estimated. This will save these consumers another \$7/MWh.

The government will also continue to look for other opportunities to reduce costs for these consumers.

KEY MESSAGES:

- **Since 2003 we've rebuilt our transmission and distribution grid, we've invested in clean generation, and we've closed the last dirty coal-fired power plant. But we need to take the next step in ensuring that clean, reliable system is affordable.**
- **Ontario is taking action to reduce electricity bills for families, farms, and businesses.**
- **As of July 1, 2017, Ontario's Fair Hydro Plan reduced electricity bills by 25 per cent on average for residential consumers. As many as half a million small businesses and farms across the province will also benefit. As part of the plan, any increases will be held to the rate of inflation for four years.**
- **Following this, the 2017 Long-Term Energy Plan (2017 LTEP) confirms that residential electricity prices are forecast to remain below the level projected in the 2013 LTEP.**
- **The OFHP legislation, supporting regulation and amendments to existing legislation (e.g., Electricity Act and Ontario Energy Board Act) enabled implementation of the following key components of the plan:**
 1. **Refinancing the Global Adjustment (GA) – The legislation outlines how costs will be fairly allocated among eligible consumers over time.**
 2. **Helping Vulnerable Electricity Consumers – The legislation broadens the Rural or Remote Protection Program (RRRP), expands the Ontario Electricity Support Program (OESP) and established a new On-Reserve First Nation Delivery Credit. The legislation also allows for these programs to be funded through the tax base.**
- **Ontario has expanded the Industrial Conservation Initiative (ICI) program. All customers with monthly peak demand greater than one megawatt now qualify, as well as manufacturers and greenhouses above 500 kilowatts.**
- **Your Organization was a valued contributor in the consultations that helped shape our 2017 LTEP.**

2017 LTEP

Q. Your forecasting shows continued increases on the province's job creators. Are you creating a crisis for businesses that will need to be solved in a manner similar to Ontario's Fair Hydro Plan?

Ontario recognizes the importance of electricity prices for industry. Keeping electricity affordable is part of our plan to create jobs, grow the economy, and help people in their everyday lives.

The 2017 LTEP electricity price outlook for large industrial consumers reflects average increases in line with inflation over the forecast period. Currently, the electricity price for industrial electricity consumers in Ontario is lower than the average price in the Great Lakes region as reported by the U.S. Energy Information Administration.

As part of Ontario's Fair Hydro Plan, we expanded the Industrial Conservation Initiative (ICI) to include smaller manufacturers and greenhouses with average monthly peak demand greater than 500 kilowatts (kW). ICI participants can lower their bills by an average of one-third by reducing consumption during peak hours.

Consumers of all sizes are benefitting from the shifting of cost recovery for electricity support programs from electricity bills to provincial revenues, lowering regulatory charges paid by all Ontario ratepayers by approximately \$3/MWh;

In addition, Ontario is looking for new ways to provide electricity rate assistance to consumers that are too large to be eligible for the OEB's Regulated Price Plan (RPP) and too small to be eligible for the Industrial Conservation Initiative (ICI), known as non-RPP Class B consumers.

If pressed on Class B consumers:

The government will continue to look for other opportunities to reduce costs for these consumers.

Q. How does the 2017 LTEP promote conservation and energy efficiency?

Ontario is committed to putting conservation first, both as a resource for the energy system and as a tool for consumers to manage their energy costs.

Conservation and energy efficiency require a sustained commitment if they are to achieve persistent savings over the long term.

Ontario will work with its agencies to enhance our commitment to conservation by:

Continuing to assess the achievable potential for energy conservation, considering initiatives under Ontario's Climate Change Action Plan, and exploring options to enhance the value of our existing investments in conservation.

Continuing to set advanced efficiency standards for products and appliances, and exploring setting or updating energy efficiency standards for key electrical equipment in drinking water and wastewater treatment plants.

Encouraging LDCs to further pursue energy efficiency measures, such as measures that reduce line losses and optimize voltage on their distribution systems, to achieve customer electricity and cost savings.

Expanding Green Button province-wide. Ontario intends to amend legislation that would, if passed, enable Ontario to require electricity and natural gas utilities to implement Green Button Download My Data and Connect My Data.

Exploring how to further integrate existing conservation and new low-carbon technology programs offered by the Green Ontario Fund for a streamlined, customer-centric approach.

Ontario's Fair Hydro Plan (OFHP)

Q. What is the government doing to help businesses and residents with the high electricity prices?

Our government recognizes the importance of electricity prices for Ontario households and businesses. Keeping electricity affordable is part of our plan to create jobs, grow the economy and help people in their everyday lives.

Since 2003 the government has rebuilt our transmission and distribution grid, invested in clean generation, and closed the last coal-fired power plant. Prices have increased because our energy system is being transformed – nearly \$70 billion has been invested to modernize the electricity system.

The government has heard from Ontarians across the province that the costs of these new investments have grown too quickly, which is why we are implementing a plan to ensure costs are shared more evenly over the years ahead.

Ontario's Fair Hydro Plan has lowered electricity bills by 25 per cent on average for residential consumers and will hold increases to the rate of inflation for four years. As many as half a million small businesses and farms are also benefitting from the reduction.

The plan includes the 8 per cent rebate introduced in January 2017 and builds on previously announced initiatives to deliver broad-based rate relief on all electricity bills.

Ontario's Fair Hydro Plan includes:

- Refinancing a portion of the Global Adjustment (GA) over a longer time period. Electricity consumers that are eligible for the 8 per cent rebate are also eligible for GA refinancing, including all residential consumers, farms, most small businesses, long-term care homes and condominiums.
- Helping vulnerable electricity consumers by enhancing electricity support programs. Eligible consumers will receive additional funding through assistance programs including:
 - A new Affordability Fund which will provide energy efficiency measures to Ontarians who are not eligible for the [Home Assistance Program](#), and who need

support to improve the energy efficiency of their homes. Broadening Rural or Remote Rate Protection (RRRP) to provide distribution charge relief for the customers of the local distribution companies (LDC's) with the highest distribution charges.

- Expanding the Ontario Electricity Support Program (OESP) by increasing the monthly on-bill credit amounts by 50 per cent and broadening eligibility so more people can participate.
 - Establishing a new On-Reserve First Nations Delivery Credit.
- Expanding the Industrial Conservation (ICI) to include smaller manufacturers and greenhouses between 500 kW and 1 MW, in addition to the consumers over 1 MW who are already eligible.
- Shifting cost recovery for OESP and the majority of RRRP from electricity bills to provincial revenues, lowering regulatory charges for everyone by approximately \$3/MWh.
- Improving sector efficiency and modernizing Ontario's electricity market, working in collaboration with the Independent Electricity System Operator (IESO) and the Ontario Energy Board (OEB).

Ontario also has a number of additional programs already in place to help households and businesses manage their electricity costs. Programs that provide support to Ontario families include:

- The Ontario Energy and Property Tax Credit helps reduce the impact of the sales tax on energy by providing low- to moderate income individuals up to \$227 for the 2017 benefit year.
- The Low-Income Energy Assistance Program provides emergency financial support for families and individuals having trouble paying their utility bills. It provides up to \$600 in one-time emergency assistance for electricity bills and up to \$500 for natural gas bills.

Additional programs for businesses include:

- Industrial Accelerator Program (IAP), which assists eligible transmission-connected companies to fast track capital investment in major energy conservation projects;
- SaveONenergy for Business programs; which offers a variety of financial incentives to help distribution-connected business and industrial customers to increase energy efficiency and save money on manage their bills; and
- Demand Response auctions, which provide payments to successful participants that commit to reducing their electricity demand when called upon to do so.

Ontario is also continuing to look for new ways to support businesses in managing their electricity costs, including providing electricity rate assistance to consumers that are too large to be eligible for the Ontario Energy Board (OEB)'s Regulated Price Plan (RPP) and too small to be eligible for ICI.

We have also been working hard to reduce electricity system costs to put downward pressure on everyone's bills, including through amendments to the Green Energy Investment Agreement, reducing Feed-in Tariff prices, introducing a competitive process for procuring power from large renewable energy projects and deferring the construction of new nuclear units.

Moving forward, Ontario's 2017 Long-Term Energy Plan (2017 LTEP) focusses on continuing to take costs out of the electricity system. For example, IESO's Market Renewal initiative will result in a more efficient marketplace with competitive and transparent mechanisms to meet system needs at lowest cost. The project is expected to save up to \$5.2 billion over a 10-year period and forms a key component of Ontario's plan to ensure the affordability of electricity in the longer term.

Q. OFHP is only for residential customers. What did you do for industrial consumers?

Industrial consumers are benefitting through two initiatives.

The Ontario Electricity Support Program (OESP) and the Rural or Remote Rate Protection (RRRP) program are now funded from provincial revenues instead of by electricity consumers. This will provide savings to consumers of all sizes of including industrial customers.

We have also expanded the Industrial Conservation Initiative (ICI) to include smaller manufacturers with peak demands between 500 kW and 1 MW. ICI provides a strong incentive for participating consumers to reduce consumption during peak hours.

By reducing the province's peak demand, ICI has the added benefit of deferring the need to build peaking generation in the longer term. Participating consumers collectively reduced Ontario's peak demand by an estimated 1,300 MW in 2016, the equivalent of two gas plants the size of Halton Hills Generating Station.

Q. How are industrial customers being affected by this Rural or Remote Rate Protection (RRRP) enhancement?

Industrial customers are experiencing cost decreases, via the Regulatory line on bills, as a result of a reduction in the RRRP regulated charge that all customers currently pay.

Q. What is the current status of industrial electricity prices in Ontario? How do prices compare to other North American jurisdictions?

Indicative industrial electricity prices in Ontario are currently below the United States average as reported by the U.S. Energy Information Administration.

We have also expanded the Industrial Conservation Initiative (ICI), which lowers electricity costs for eligible large consumers that reduce consumption during peak times. To allow more businesses to benefit from ICI, effective January 1st, we lowered the threshold from 3 megawatts (MW) to 1 MW. Newly eligible consumers that opted-in to ICI began to see the impact on their bill for July 2017 usage.

As part of Ontario's Fair Hydro Plan, we further expanded ICI to include smaller manufacturers and greenhouses (i.e., NAICs codes commencing "31", "32", "33" and "1114") with average

peak demand greater than 500 kW and less than 1 MW. The expansion to 500 kW also became effective July 2017.

Consumers of all sizes are benefitting from the shifting of cost recovery for electricity support programs from electricity bills to provincial revenues, lowering regulatory charges for everyone by approximately \$3/MWh or 2-4 per cent.

Ontario has a number of additional measures in place to help businesses manage the cost of electricity, including the Northern Industrial Electricity Rate Program (NIERP), the Industrial Accelerator Program (IAP), saveONenergy for Business conservation programs, and annual Demand Response Auctions, which provide payments to successful participants in exchange for a commitment to reduce their consumption when called upon to do so.

Q. What about companies that can't shift their operations to off-peak hours? Are they being penalized financially by having to pay higher rates?

Eligible electricity consumers are able to opt in to the ICI. We recognize that electricity costs are a major factor for businesses participating in Ontario's economy. That's why Ontario has programs in place to help industrial consumers address the cost of their electricity.

Ontario's hybrid electricity market, combining regulated, contract and competitive market pricing, provides long-term price stability for industrial and smaller customers.

In addition to the ICI, there are many existing programs and incentives available to support industrial consumers.

For example:

- Participants in the Northern Industrial Electricity Rate Program (NIERP) receive a rebate of two cents per kilowatt hour. On average, industrial electricity prices can be reduced by up to 25 per cent through the program. In 2015, the Ontario government announced the commitment to an ongoing NIERP beyond March 2016.
- The Industrial Accelerator Program (IAP) provides financial incentives to eligible transmission-connected companies to fast track capital investment in major energy conservation projects.
- IESO holds annual demand response auctions, which provide availability and utilization payments to successful participants that commit to reducing their electricity consumption when called upon to do so.
- IESO's saveONenergy for Business conservation programs for commercial and industrial consumers offers financial incentives to distribution-connected small businesses, commercial, institutional and industrial consumers, to install energy-efficient equipment and improve the energy efficiency of their buildings.

As we move forward we will continue to look at all options to strike the balance between reliability and affordability, while continuing our work on modernizing our electricity system.

Conservation/Energy Efficiency

Q. Are there electricity conservation programs available to the industrial and commercial sectors?

On January 1, 2015, Ontario launched the six-year Conservation First Framework to support province-wide and local electricity conservation programs.

The six-year Conservation First Framework is a long-term commitment to conservation.

It builds on the success of previous programs and supports the development of new programs to meet local needs and offer more choice for consumers. Local electricity utilities know their customers and are in the best position to deliver conservation programs. The Framework gives local electricity utilities more control over the conservation programs offered in their service area.

Ontario has a number of programs in place that help consumers manage electricity bills through the installation of energy saving measures, or by using energy wisely.

These programs are funded by the Independent Electricity System Operator (IESO) and delivered by local distribution companies (LDCs) and the IESO.

Programs for the commercial and institutional sector include:

- saveONenergy Retrofit Program provides various incentives for as much as 50 per cent of project costs, and advanced funding for assisted and social housing buildings, for updating old or inefficient equipment, including lighting, motors, unitary AC or packaged rooftop units, variable frequency drives, and compressed air systems.
- saveONenergy Audit Funding of up to 50% of the cost of an energy audit to identify opportunities for energy efficiency upgrades and eligible incentives.
- saveONenergy Small Business Lighting provides incentives for new energy efficient lighting.
- saveONenergy Process and Systems provides up to \$50,000 for engineering studies and up to 70% of capital costs for energy efficiency upgrades.
- saveONenergy New Home Construction is designed to encourage home builders and renovators to construct energy-efficient homes, and includes incentives for installation of energy-efficient measures.
- IESO's saveONenergy TRAINING & SUPPORT initiatives help provide access to the most up-to-date training, such as in building commissioning, certified measurement and verification, and how to be an energy manager.

Programs for the industrial sector include:

- The Industrial Accelerator Program (IAP) assists eligible transmission-connected companies, and their distribution-connected sites to fast track capital investment in major energy conservation projects. The program will provide 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.

- The Process and Systems Upgrade Initiative (PSUI) is an industrial conservation program available to distribution-connected industrial and commercial customers. The program helps organizations with complex systems and processes identify, implement, and validate energy efficiency projects from start to finish.
- Program offerings through the new Green Ontario Fund will also help Ontario businesses and industries increase their use of low-carbon technologies and manage their energy costs. The Green Ontario Fund website (GreenON.ca) is now providing a coordinated, one-window portal to conservation and new low-carbon technology programs.

Q. What about natural gas conservation?

The government is committed to promoting the conservation of natural gas and is promoting collaboration of conservation efforts among electricity and natural gas utilities. Between 2005 and 2014, Ontarians conserved 1,880 million cubic meters of natural gas from conservation programs alone – equivalent to natural gas used by 817,000 homes in a year.

Natural gas conservation programs assist consumers in managing their natural gas bills through the reduction of natural gas consumption. Customers who participate in these programs see a decrease in their natural gas bills. Natural gas conservation programs also contribute towards GHG emission reductions. 2015 to 2020 natural gas conservation programs under the Demand Side Management Framework are expected to result in 2.5 Mt of CO₂e emission reductions in 2020.

These programs are delivered by Enbridge Gas and Union Gas.

Programs for the commercial, institutional and industrial sectors include:

Enbridge Commercial and Industrial DSM Programs	
Program Name	What Participants Receive
Commercial & Industrial - Prescriptive & Custom Incentives	• Online tools to estimate savings • Site assessment • Energy efficiency recommendations • Financial incentives for efficient technologies and equipment • Data gathering • Engineering calculations
Comprehensive Energy Management	• Customers must commit to a goal, establish a team, improve O&M practices and invest in energy management (goal is increased visibility of energy use) • Financial incentives to offset cost of monitoring systems, capital measures, promotion of energy awareness and training, and for natural gas savings

Commercial Savings By Design	• Enrol builders into an Integrated Design Process (IDP) to educate and help implement increased energy efficiency building practices • Financial performance incentives
-------------------------------------	---

Union Gas Commercial and Industrial DSM Programs	
Program Name	What Participants Receive
Commercial & Industrial - Prescriptive & Custom Incentives	• Online tools to estimate savings • Site assessment • Energy efficiency recommendations • Financial incentives for efficient technologies and equipment • Data gathering • Engineering calculations
RunSmart	• Site assessment • Financial incentives for achieving energy savings
Strategic Energy Management (SEM)	• Technical support provided at no cost to the customer to assess and identify appropriate energy use metrics, recommend sub-metering requirements, and to aid in the development of a continuous improvement energy management plan • Incentives for start-up and demonstrated energy performance improvements over time
Large Volume Program	• Direct access to the financial incentives equal to the amount the customer pays for DSM through rates • Financial incentives to be used for studies, new equipment, operation & maintenance, metering, and new technology demonstrations • Education & Awareness
Commercial Savings By Design	• Builders/developers in the design phase or earlier in the process of developing a new building would be eligible to receive a financing incentive to work towards increasing the energy efficiency of the building.

•

Q. What kind of progress has Ontario made in updating its energy efficiency standards?

Through the 2013 Long-Term Energy Plan (2013 LTEP), Ontario committed to regularly updating its energy efficiency regulation and showing leadership in establishing minimum efficiency requirements for products and appliances.

Ontario continues to show leadership in regularly updating its energy efficiency regulation by setting/adopting new and enhanced energy efficiency standards for products and appliances.

Ontario regulates energy efficiency for over 80 products in the residential, commercial and industrial sectors – more products than any other jurisdiction in Canada – and has the most stringent standards for a number of products, such as certain space and water heating equipment and lighting products.

The *Energy Statute Law Amendment Act, 2016* (Bill 135), which received Royal Assent on June 9, 2016, included an amendment to the *Green Energy Act, 2009* to enable regulating the water efficiency of products and appliances which consume both energy and water. As a result, since January 1, 2017, Ontario's efficiency regulation includes water efficiency requirements for products that consume both energy and water, resulting in further reductions to energy consumption and GHG emissions.

Ontario's 2016 Climate Change Action Plan (CCAP) identified Ontario as a leader in regulating the energy efficiency of appliances and products. The CCAP committed to update energy efficiency standards for key energy-consuming equipment found in drinking water and waste water treatment plants in order to further reduce the Province's energy use and greenhouse gas emissions.

Q. What amendments have been made to energy efficiency regulation? How much savings do these changes represent?

Since 2012, Ontario has updated its energy efficiency regulation (O. Reg. 404/12 – Energy and Water Efficiency – Appliances and Products) eight times, setting new or enhanced energy efficiency standards for over 60 products including 30 new products. In addition to energy efficiency, water efficiency standards were also set for products that consume both energy and water.

The most recent major amendment came into force on January 1, 2017 and included new and enhanced efficiency standards for 15 products, including new water efficiency requirements for 5 products.

Q. How about next steps? Will the energy efficient regulation be further amended?

Ministry staff are working on the next amendment to Ontario's energy efficiency regulation.

On June 19, 2017, proposals for the next update to Ontario's energy efficiency regulation, including new and updated efficiency standards for 15 products, were posted on the Environmental Registry for a 45 day public review. The Ministry anticipates bringing forward the proposed amendment for approval by the end of this calendar year.

Through commitments made in the 2015 Council of the Federation and the 2015 Energy and Mines Ministers Conference, Ontario is collaborating with other provinces and the federal government to improve minimum energy performance standards across Canada to drive efficiency improvements, engage in market transformation activities and drive cost effective actions to reduce GHG emissions and promote energy conservation.

Q. What about other legislation? How does the Ontario Building Code enhance energy efficiency for new buildings?

The Ontario Building Code (OBC), under the Ministry of Municipal Affairs, makes Ontario one of the leading jurisdictions in North America for energy and water conservation in new buildings.

The existing, 2012 OBC came into force on January 1, 2014 with energy requirements that came into force on January 1, 2017:

- The current energy requirements increase energy efficiency requirements for small buildings/residential homes by 15 per cent above the 2012 requirements and by 13 per cent for large buildings.

The Ministry of Municipal Affairs is currently seeking stakeholder and public input on proposed changes to Ontario's Building Code. The consultation document and proposed Building Code changes include provisions to reduce greenhouse gas emissions in the building sector in support of the government's Climate Change Action Plan. The proposals included in this consultation are for potential inclusion in the next edition of the Building Code.

The consultation document and proposed Building Code changes have been posted on the Regulatory Registry, Environmental Registry, and the ministry website for a period of 77 days and closed on September 29, 2017.

Q. What is the status of the Energy and Water Reporting and Benchmarking for Large Buildings Initiative?

- Ontario is demonstrating leadership through energy reporting and benchmarking requirements for provincial government and broader public sector buildings. On February 6, 2017, Ontario introduced Ontario Regulation 20/17, *Reporting of Energy Consumption and Water Use* which requires mandatory energy and water reporting and benchmarking for large buildings (EWRB). Formal reporting will open in January 2018 to accommodate the first reporting deadline of July 1, 2018 for commercial buildings 250,000 sq. and larger. Reporting will be phased in over 3 years by building size and type with approximately 18,000 commercial and multi-unit residential buildings over 50,000 sq. reporting annually by 2020.
-

Q. How does the Energy and Water Reporting and Benchmarking for Large Buildings Initiative help building owners identify and achieve energy savings?

This initiative would help building owners identify opportunities to save energy and water, and help tenants and buyers make informed property decisions. It would also help Ontario meet its energy conservation and greenhouse gas (GHG) reduction goals.

By motivating building owners to compete with other businesses, or to strive to improve their performance year over year, businesses can make changes to use energy and water more efficiently and help them save money on their bills.

We expect there would be minimal costs to building owners to comply with a requirement. Further, energy reporting and benchmarking can help building owners identify and achieve energy savings.

C&T and CCAP

Q. Have energy prices increased with cap and trade?

In accordance with the Climate Change legislation, natural gas distributors are required to comply with the cap and trade program. Distributors recover cap and trade costs from users connected to their systems. Since natural gas distributors are regulated entities, any charges associated with gas distributors purchasing emission credits on behalf of customers will need to be reviewed and approved by the Ontario Energy Board (OEB).

On November 24, 2016, the OEB set interim rates of about 3.35 ¢ per cubic metre of natural gas for the recovery of costs related to cap and trade. On September 21, 2017, the OEB approved the cost implications of Enbridge, Union and NRG's cap and trade compliance plans as submitted, and indicated that interim and final rates are not expected to materially differ.

Cap and trade is expected to increase average residential bills by between \$68 to \$80 per year (before taxes). The exact costs will depend on how much natural gas a customer uses each month.

Fuels suppliers for products such as gasoline, diesel and propane also reflected the carbon price in the price of their products as of January 1, 2017.

Ontario's Climate Change Action Plan outlines how cap and trade auction proceeds are to be used in the first cap and trade compliance period (2017-2020) to fund actions to reduce greenhouse gas (GHG) emissions, such as supporting businesses in shifting away from fossil fuels and investing in next generation clean technologies. This will create good jobs, generate opportunities for investment in Ontario, and help smooth the transition to a low-carbon economy.

Nuclear

Q. What kind of role do you see the nuclear industry playing in Ontario's economic development?

Ontario's nuclear industry does much more than provide clean, reliable power. It creates jobs and growth across many sectors.

Ontario's nuclear sector supports an innovative industry of over 180 companies and a work force of approximately 60,000 people, including highly-skilled workers in nuclear plant operation and support, nuclear refurbishment, and manufacturing supply chain.

The planned refurbishment of 10 nuclear units at Darlington and Bruce will boost economic activity across Ontario by creating jobs and securing a clean and affordable supply of reliable electricity.

The nuclear sector is also a source of considerable innovation that reaches across multiple sectors, such as aerospace (e.g., fueling of deep space probes) and medical science applications (e.g., Cobalt-60 for cancer treatment). Ontario's commitment to refurbish its nuclear fleet is helping to secure these broader societal benefits and unlocking future opportunities.

As outlined in the 2017 Long-Term Energy Plan, future opportunities in nuclear innovation could include development of advanced small modular reactors and recycling of used nuclear fuel.

Ontario's nuclear technology could also be used for the large scale production of hydrogen fuel for transportation and heating.

Q. How will the Darlington project benefit the province?

On October 15, 2016, OPG began Canada's largest clean energy project, the refurbishment of the Darlington Nuclear Generating Station (i.e., Unit 2 refurbishment). Unit 2 refurbishment is off to a great start and is on track to be complete on time and on budget. Refurbishing Darlington is an investment in Ontario. It's good for the customers, it's good for the economy and it's good for the environment.

Nuclear refurbishment will boost economic activity across Ontario by creating jobs, and securing a clean and affordable supply of reliable electricity.

Darlington's refurbishment and continued operation up to 2055 will contribute a total of \$90 billion to Ontario's GDP, and increase employment across the province by an average of 14,200 jobs annually, including over 2,600 jobs onsite at Darlington. Equally important, Darlington's refurbishment will also help reduce greenhouse gas (GHG) emissions equivalent to removing two million cars off the road.

Q. Is the Bruce refurbishment good for our economy?

Ontario's nuclear industry and the broader economy will greatly benefit from our investment in nuclear refurbishment.

The Bruce site is estimated to maintain 22,000 direct and indirect jobs annually, with \$4 billion in annual Ontario economic benefits through spending on operational equipment, supplies, materials and labour income. Refurbishment will secure these benefits up to 2064.

During the Bruce refurbishment period, the Bruce site will provide an additional estimated 5,000 direct and indirect jobs annually, with \$2.3 billion in annual economic benefits.

Bruce Power will commence the first refurbishment in 2020.

Renewables

Q. How has renewable energy benefited Ontario's economy?

Ontario's *Green Energy Act, 2009* (GEA) has attracted billions of dollars in private sector investments, generated thousands of jobs and significantly increased the amount of clean energy in our supply mix. According to a report from an expert third-party, the renewables sector is forecast to contribute nearly \$5.4 billion to Ontario's gross domestic product and create 56,500 jobs between 2017 and 2021.

Ontario has the fastest growing clean tech sector in Canada. For example, in just ten years, the province has become a North American leader in the development, use, and manufacturing of clean energy technologies. Many of the companies that participated in Ontario's expansion of renewable energy are now poised to export their expertise and products to foreign markets. This could contribute as much as \$1 billion to Ontario's GDP and could add as many as 10,700 jobs between 2017 and 2021.

Ontario is home to about 30 solar and wind manufacturers. . These companies continue to be leaders in the development of the renewable energy industry in Canada and beyond.

Low Carbon Economy

Q. How will the ministry help businesses transition to a low-carbon economy? Will this cost more money?

By eliminating coal-fired generation, we now have an electricity system that is more than 90 per cent free of emissions that cause climate change. There are a number of programs available to assist businesses manage energy costs as we further transition to a low-carbon economy.

We have expanded the Industrial Conservation (ICI) to include smaller manufacturers and greenhouses with average monthly peak demand between 500 kW and 1 MW, in addition to the consumers over 1 MW who are already eligible. ICI participants can lower their bills by an average of one-third by reducing consumption during peak hours.

Ontario's Fair Hydro Plan has shifted cost recovery for OESP and the majority of RRRP from electricity bills to provincial revenues, lowering regulatory charges for everyone by approximately \$3/MWh.

Improving sector efficiency and modernizing Ontario's electricity market, working in collaboration with the Independent Electricity System Operator (IESO) and the Ontario Energy Board (OEB) is expected to save billions for Ontario consumers in the coming years.

Additional programs that will help businesses transition to a low-carbon economy include:

- Industrial Accelerator Program (IAP), which assists eligible transmission-connected companies to fast track capital investment in major energy conservation projects;
- SaveONenergy for Business Program; which offers a variety of financial incentives to distribution-connected business and industrial customers to increase energy efficiency and save money on their bills, and
- Demand Response auctions, which provide payments to successful participants that commit to reducing their consumption when called upon to do so.

Government is removing the Debt Retirement Charge (DRC) for commercial, industrial and other non-residential electricity users on April 1, 2018, nine months earlier than previously estimated. This will save these consumers another \$7/MWh.

Q. What is a decarbonized grid and what does it mean for businesses? How will this impact electricity prices?

A decarbonized grid means fewer CO2 emissions from sources such as from gas-fired generation. Instead more electricity is produced from clean, renewable sources such as solar, wind and nuclear.

In order to ensure competitively priced electricity in this context, businesses can rely on new and existing government programs such as the Industrial Conservation Initiative (ICI). ICI

participants can lower their bills by an average of one-third by reducing consumption during peak hours.

Initiatives such as Market Renewal will ensure the province has appropriate sources of electricity at the lowest possible price. This initiative could save Ontarians up to \$5.2 billion over a 10-year period.

Appendix

Minister Thibeault Stratford QA

Q. What does Ontario's 2017 Long-Term Energy Plan (2017 LTEP) mean for businesses in the province?

Ontario recognizes the importance of electricity prices for industry. Keeping electricity affordable is part of our plan to create jobs, grow the economy, and help people in their everyday lives.

The 2017 LTEP electricity price outlook for large industrial consumers reflects average increases in line with inflation over the forecast period. Currently, the electricity price for industrial electricity consumers in Ontario is lower than the average price in the Great Lakes region as reported by the U.S. Energy Information Administration.

As part of Ontario's Fair Hydro Plan, we expanded the Industrial Conservation Initiative (ICI) to include smaller manufacturers and greenhouses with average monthly peak demand greater than 500 kilowatts (kW). ICI participants can lower their bills by an average of one-third by reducing consumption during peak hours.

Consumers of all sizes are benefitting from the shifting of cost recovery for electricity support programs from electricity bills to provincial revenues, lowering regulatory charges paid by all Ontario ratepayers by approximately \$3/MWh.

Ontario also has a number of additional measures in place to help businesses manage the cost of electricity, including the Northern Industrial Electricity Rate Program (NIERP), the Industrial Accelerator Program (IAP), saveONenergy for Business conservation programs, and annual Demand Response Auctions.

- The **Industrial Accelerator Program** assists eligible industrial, commercial and institutional customers that are directly or indirectly connected to the IESO transmission grid fast-track capital investment in major energy-efficiency projects. Transmission-connected customers with distribution-connected sites can also elect to have these administered through the IAP.
- **saveONenergy for Business Conservation Programs** offer a variety of financial incentives to help businesses increase energy efficiency and manage their electricity bills. Incentives are available to a broad range of businesses, including institutional customers such as municipalities, for energy audits, retrofits, process and systems upgrades, and small business lighting.

- Annual Demand Response Auctions are held by IESO for demand response capacity. Successful bidders (including residential Demand Response aggregators, large businesses and industry) receive payments to shift their consumption at times when the electricity system is stressed.

In addition, Ontario is looking for new ways to provide electricity rate assistance to consumers that are too large to be eligible for the Ontario Energy Board's (OEB) Regulated Price Plan (RPP) and too small to be eligible for the ICI, known as non-RPP Class B consumers.

If pressed on Class B consumers:

The government will continue to look for other opportunities to reduce costs for these consumers.

Q. Can you provide any insights about the future of natural gas in Ontario, including increasing access for consumers?

Ontario will continue to support expanded access to natural gas, giving customers greater choice and aiding in the economic development of their communities.

In April 2017, the government launched the new Natural Gas Grant Program to facilitate the expansion of natural gas service into areas of the province which currently do not have access to natural gas, including those in rural and northern Ontario and First Nations communities. The Natural Gas Grant Program is a \$100 million initiative, part of the province's Moving Ontario Forward plan led by the Ministry of Infrastructure (MOI), with support from ENERGY and the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA).

The application window for the Grant Program closed on July 31, 2017. MOI is currently reviewing all applications for funding. Ensuring affordable sources of energy are available to more rural and northern communities is a key part of Ontario's energy plan.

A new regulatory framework issued by the Ontario Energy Board (OEB) in November 2016 makes natural gas expansion more economically feasible for unserved communities by giving utilities more flexibility in how they structure their rates. The framework also encourages multiple utilities to compete to serve these communities.

While natural gas will continue to play a central role in the Province's energy supply mix, Ontario is also looking at using renewable natural gas (RNG) to lower the carbon intensity of natural gas use. Renewable fuel alternatives do not incur cap and trade costs and, consequently, are expected to become relatively more attractive than carbon intensive fuels. This could increase the adoption and use of fuels such as RNG, which can use the existing natural gas distribution system to replace the use of conventional natural gas while simultaneously lowering GHG emissions.