

Ontario Energy Policy in 2016

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Abstract

The energy file in Ontario was very active in 2016, with a tighter linkage between energy and climate policy influencing most of the year's actions. Some of the most important energy developments in Ontario in 2016 were:

1. A law to implement **carbon pricing** through a cap and trade system, and a *Climate Change Action Plan* to further reduce greenhouse gas emissions, in part using revenues from cap and trade.
2. A new legal framework for energy system planning, and the initiation of an updated **long-term energy plan encompassing all fuels**.
3. Actions to move **electric vehicles into the mainstream**, through incentives, public charging infrastructure, and new Building Code requirements.
4. Completion of a co-ordinated land-use planning review, followed by proposed changes to provincial land use plans that focus on **intensification and integration of transit and land use planning**.
5. **Ownership changes of Ontario's energy utilities**, including the continuing government sale of Hydro One, the merger of four large electricity distributors, and the planned merger of the parent companies of Ontario's two large gas utilities.
6. Full implementation of **new conservation frameworks for electricity and natural gas**, with new programs, targets, and budgets.
7. Initial steps to increase production and use of **natural gas from renewable energy sources**.
8. **Refurbishment of Ontario's nuclear fleet**, beginning with the shutdown of a unit at Darlington in October 2016.
9. **Changes to renewable electricity procurement**, including a contract for hydroelectric imports from Quebec, a freeze on new large-scale renewable electricity projects, and a transition of small-scale renewable projects to net metering.
10. Attempts to provide **electricity price relief** to consumers.

3.1 Multiple Fuels, Energy Use in Buildings, and Clean Technology

Climate Change

Climate change dominated the provincial policy agenda in 2016, with the *Climate Change Mitigation and Low-carbon Economy Act* at the centre. For details of this law and the related *Climate Change Action Plan*, see the ECO's 2016 Greenhouse Gas Progress Report, *Facing Climate Change*.

The central feature of the law is that most consumers of fossil fuels have begun paying a carbon price as part of their energy costs as of January 1, 2017. The price is established through a market-based cap and trade system that requires most greenhouse gas emissions to be authorized by allowances. Most of the allowances are sold by auction. Proceeds from the sale

Climate change dominated the provincial policy agenda in 2016.

of allowances must be placed in a Greenhouse Gas Reduction Account and reinvested into initiatives to reduce greenhouse gas emissions, including actions to reduce energy use or switch to lower-carbon energy sources. The first auction took place in March 2017, and the first proceeds were received in April 2017.

Although the government did not receive any cap and trade revenue until fiscal year 2017/2018, in 2015 it announced a \$325 million “down payment” for some key initiatives through what it called the “Green Investment Fund.” In 2016, monies were provided for several initiatives from this temporary fund. The government announced its intention to use monies from the Greenhouse Gas Reduction Account (GGRA) to reimburse this funding. To do so, it will have to meet the requirements for use of GGRA funds set out in the

Climate Change Mitigation and Low-carbon Economy Act – see Chapter 5 of *Facing Climate Change*. The ECO will be monitoring and reporting on the use of such funds.

Some of the largest initial commitments from the Green Investment Fund were earmarked for energy retrofits in social housing and private apartment buildings, where access to capital for retrofits is often a problem. The Green Investment Fund also committed \$100 million to the gas distributors to financially assist homeowners with audits and energy retrofits of their dwellings. Funding is available to homes heated with any fuel – gas, oil, propane, wood or electricity.

Long-Term Energy Plan

The legal framework for energy system planning was changed through the *Energy Statute Law Amendment Act*, which passed in June 2016. This Act repealed the requirement for an Integrated Power System Plan produced by the Independent Electricity System Operator (IESO) and approved by the Ontario Energy Board (OEB). In its place, the Act requires the Ministry of Energy to develop a Long-Term Energy Plan (LTEP). Two technical reports, the *Ontario Planning Outlook* and the *Fuels Technical Report*, were produced to inform the development of the LTEP. These reports examine the current state and future scenarios for the electricity and fuels sectors, respectively. The Ministry of Energy then began consultation (through the discussion guide, *Planning Ontario's Energy Future*) on the LTEP, which will set the provincial direction for the energy sector for the next 20 years. In contrast to previous energy plans, signals are that the Ministry intends to develop a comprehensive plan that covers all energy sources, not just electricity, something the ECO has long recommended.

The ECO provided many specific recommendations on the LTEP in its special report, *Developing the 2017 Long-Term Energy Plan*, including ensuring that the LTEP aligns with Ontario's climate change targets. Public consultation and Indigenous engagement ended in January 2017. At the end of July 2017 the Ministry had not announced a date for finalizing the LTEP.

Energy Use in Buildings

Other initiatives in 2016 addressed multiple fuels by tackling energy use in buildings. Legislation was passed which will require large buildings (50,000 square feet or larger) to report publicly on their energy use, water use, and greenhouse gas emissions, similar to reporting requirements enacted in 2011 for buildings in the broader public sector. The Ministry of Municipal Affairs released technical standards outlining how to comply with the higher energy efficiency requirements in the Ontario Building Code that take effect in 2017, and began consultation on future updates to further improve

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building energy efficiency, including the consideration of extending energy efficiency requirements to renovations.

Table 3.1. 'Multiple Fuels' Initiatives in Ontario in 2016

2016	ACTIVITY
<p>FEBRUARY</p>	<p>Government announces several Green Investment Fund spending commitments:</p> <ul style="list-style-type: none"> • \$100 million to partner with Enbridge and Union Gas to financially assist some 37,000 home audit and energy efficiency retrofits, accessible to homes with any source of heating, including those outside the gas distributors' service areas. • \$74 million for a clean-tech innovation initiative to assist large industrial plants to adopt technologies that reduce greenhouse gas emissions. • \$25 million to deliver a Green Smart energy efficiency program to improve energy efficiency of small- and medium-sized businesses. • \$1.35 million over three years to support Ontario EcoSchools projects to enhance energy literacy and environmental practices among primary and secondary school students. • \$1 million to Sustainability CoLab Network for small- and medium-sized businesses to complete energy audits and retrofits and adopt efficiency measures. <p>Ministry of Energy proposes energy and water reporting regulation for large buildings (Environmental Registry #012-6904).</p>
<p>APRIL</p>	<p>Government announces \$43 million from Green Investment Fund for energy efficiency retrofits of social housing in Toronto.</p>



MAY

Legislature passes the *Climate Change Mitigation and Low-carbon Economy Act* to establish a cap and trade system for putting a price on many of Ontario's greenhouse gas emissions, create a greenhouse gas reduction account to hold cap and trade revenues, give legal authority to greenhouse gas reduction targets, and other matters. Ministry of the Environment and Climate Change files cap and trade program regulation (O. Reg. 144/16) and greenhouse gas reporting regulation (O. Reg. 143/16).

Government announces \$900 million over four years from Green Investment Fund and cap and trade proceeds for energy efficiency retrofits of social housing (\$500 million) and private residential apartment buildings (\$400 million) across Ontario.

JUNE

Legislature passes the *Energy Statute Law Amendment Act* to revise long-term energy planning, implement building energy efficiency reporting and set water efficiency standards for energy using products.

Government releases *Climate Change Action Plan*, building on the Climate Change Strategy of November 2015, to reduce greenhouse gas emissions and deploy low-carbon energy actions.

Ministry of Municipal Affairs amends supplementary standard for energy efficiency in houses (SB-12), detailing compliance packages for achieving the energy efficiency requirements in the Ontario Building Code that take effect in 2017.

JULY

Ministry of Municipal Affairs proposes amendments to the Ontario Building Code to require drainwater heat recovery in all new houses, and initiates further consultation on how to further increase energy efficiency in new buildings and introduce efficiency requirements for renovations (Environmental Registry #012-8208).

Ministry of Energy begins consultation on the province's next Long-Term Energy Plan (Environmental Registry #012-8840), preceded by technical reports released in September on the fuels sector (*Fuels Technical Report*) and the electricity sector (*Ontario Planning Outlook*). The Ontario Planning Outlook was developed by the IESO in response to a directive from the Ministry of Energy in June.

OCTOBER

Ministry of the Environment and Climate Change proposes an amendment to the cap and trade program regulation (O.Reg. 144/16) to incorporate offsets from greenhouse gas emissions reductions outside the capped sectors (Environmental Registry #012-9078).

NOVEMBER

Ministry of Municipal Affairs amends supplementary standard for energy efficiency in large buildings (SB-10), detailing compliance paths for achieving the energy efficiency requirements in the Ontario Building Code that take effect in 2017.

DECEMBER

Ministry of Energy amends energy efficiency standards regulation (O. Reg. 404/12) to add or update efficiency standards for 15 products, including the addition of water efficiency standards for five products.

Ministry of the Environment and Climate Change amends cap and trade program regulation (O. Reg. 144/16) and greenhouse gas reporting regulation (O. Reg. 143/16), and posts regulatory proposal (Environmental Registry #012-9270) for Ontario Climate Change Solutions Deployment Corporation (Green Ontario Fund).



The Action Plan also gave recognition to transportation demand management.

3.2 Transportation Fuels

Transportation in the Climate Change Action Plan

Ontario's *Climate Change Action Plan*, released in June 2016, contained some two dozen specific actions related to transportation energy, although only a handful launched in 2016. Most of the plan's transportation focus centred on displacing conventional motor fuels (e.g., gasoline and diesel) with low-carbon alternatives (e.g., electricity, ethanol and biodiesel). The Action Plan also gave recognition to transportation demand management with several promises: to accelerate Regional Express Rail deployment and encourage commuters to shift to GO train infrastructure; to study short line railways for freight movement; and, to integrate energy measures and policies in land-use planning.

Electric Vehicles

Most of the Action Plan's transportation commitments were not launched in 2016, but progress was made on electric vehicles (EVs). Since 2009, the government has had a goal of 1 in 20 vehicles driven in Ontario being electric by 2020, but progress towards this goal has been very slow, with an estimated 5800 EVs in Ontario at the beginning of 2016. However, progress was made in 2016; at year-end there were nearly 10,000 EVs registered in Ontario. In 2016, the target was changed to 1 in 20 passenger vehicles sold in Ontario (instead of driven) to be electric or hydrogen by 2020.

Funding was announced in February 2016 that maintained and augmented existing EV incentive programs. Plug-in hybrid and battery EVs are both eligible, as they were with the preceding program. Purchase incentives increased by \$1,000 to \$1,500 depending on the vehicle and its battery size, raising

the incentive range to \$6,000 - \$14,000 (incentives were updated again in early 2017). The \$1,000 purchase incentive for home vehicle chargers was maintained. In April, \$20 million of new funding was committed from the Green Investment Fund to 27 public- and private-sector partners to build 500 public EV charging stations in 250 locations across Ontario. These fast-charging stations will help address the issue of “range anxiety” and were expected to all be operational by March 2017, although this milestone was not met.

EV policy development continued through the rest of 2016. OEB staff issued an information bulletin clarifying that selling EV charging services would not require a license from the OEB, and the Ministry of Transportation issued a discussion paper seeking public input on future design of electric vehicle purchase and charging financial incentive programs. Of most importance, the Ministry of Municipal Affairs released proposed changes to the Building Code in November that would require all new houses with parking to be built EV-ready (i.e., with an energized 240 volt/50 amp electric receptacle suitable for vehicle charging), an action the ECO had previously recommended, in Chapter 3 of our 2015/2016 Annual Energy Conservation Progress Report, *Conservation: Let's Get Serious*. Other buildings (except for multi-unit apartment buildings) with parking in the building (e.g., attached or underground garages) would need to be equipped with EV charging equipment in 20% of the parking spots, with the other 80% of spots made EV-ready. The primary intent of this proposal is to facilitate workplace charging for EV owners. If implemented, these changes would take effect for new buildings as of January 2018.

Land-Use Planning

Transportation energy use will also be affected by proposed updates to land-use plans announced in 2016 (and finalized in May 2017). Following a co-ordinated review of several plans (the Growth Plan for

the Greater Golden Horseshoe, the Greenbelt Plan, the Oak Ridges Moraine Conservation Plan, and the Niagara Escarpment Plan) guiding development in the Greater Golden Horseshoe, the Ministry of Municipal Affairs and the Ministry of Natural Resources and Forestry updated all four plans, based in large part on recommendations received from an advisory group led by former Toronto mayor David Crombie in 2015. Proposed updated plans were released for consultation from May to October 2016, and finalized plans came into effect on July 1, 2017. The amendments are intended, among other things, to limit sprawl and build complete communities, providing adequate density to support transit and reducing energy use for personal transportation. Policies include directing more growth to existing built-up areas, setting density targets around major transit stations, and increasing density targets to at least 80 people and jobs per hectare in designated municipal greenfield areas.

GTA West Highway Review

In another announcement, the government appointed a GTA West advisory panel to assess alternative approaches to meeting future transportation demand and infrastructure needs to ensure the efficient movement of passengers and freight in the GTA West corridor. Previously, in late 2015, work on the environmental assessment of the proposed new GTA West highway had been suspended in order to review the project for alignment with government policy and emerging technologies. It appears that the government is considering alternatives to road-building as the primary solution to transportation management.

Cycling Infrastructure

Funding local governments' active transportation efforts rounded out the Province's low-carbon transportation fuels initiatives in 2016. The \$10 million municipal cycling infrastructure program, established as part of Ontario's #CycleON cycling strategy in 2015, was distributed to 37 municipalities and several regions across the province to add new or improve existing bike lanes and paths.

Table 3.2. Transportation Fuels Initiatives in Ontario in 2016

2016	ACTIVITY
FEBRUARY	Ministry of Transportation enhances the Electric Vehicle Incentive Program.
MARCH	Ministry of Transportation releases Request For Proposals for Highway 427 extension, including dedicated High Occupancy Toll lanes with electronic tolling.
MARCH-APRIL	Ministry of Transportation provides \$10 million from the Ontario Municipal Cycling Infrastructure Program to build cycling infrastructure.
APRIL	Ministry of Transportation provides \$20 million from the Green Investment Fund to build public EV charging stations.
MAY	Ministry of Municipal Affairs continues the Co-ordinated Land Use Planning review and proposes changes to provincial land use plans that govern how and where growth is managed in the Greater Golden Horseshoe region, including a focus on intensification and improved integration of transit, land use planning and climate change (Environmental Registry #012-3256). The review concluded in May 2017 with the release of the updated provincial plans.
JUNE	Ministry of Transportation announces high occupancy toll lane pilot project on Queen Elizabeth Way, enabling single-occupant vehicles to use high occupancy toll lanes.
	Ministry of Transportation issues discussion paper on revitalizing intercity bus service (Environmental Registry #012-7896)
	National Energy Board initiates review of TransCanada Energy East pipeline proposal to convert natural gas pipeline to oil.
JULY	OEB releases bulletin stating electric vehicle charging services is not an electricity distribution or retail activity and does not require OEB regulation.
SEPTEMBER	National Energy Board temporarily adjourns hearing on TransCanada Energy East pipeline proposal.

OCTOBER

GTA West advisory panel solicits public input to assess approaches to meet future transportation demand needs in the GTA West.

Ministry of Transportation issues discussion paper (Environmental Registry #012-8727) on program design of EV purchase and charger incentives, and ways to increase education, awareness and uptake of EVs.

Ministry of Transportation and Ministry of Northern Development and Mines issue a discussion paper and continue consultation to develop a Northern Ontario multi-modal transportation strategy (Environmental Registry #012-8890, preceded by Environmental Registry #012-7763).

Ministry of Transportation issues a discussion paper on Cycling Initiatives to improve commuter cycling networks, based on funding proposed in the *Climate Change Action Plan* (Environmental Registry #012-8772)

NOVEMBER

Minister of Energy directs the OEB to review and report back on transportation fuel prices.

Ministry of Municipal Affairs issued proposed Building Code changes requiring houses with parking to be equipped for future electric vehicle charging installation, and large buildings (except for multi-unit apartment buildings) to be equipped with EV charging equipment in a portion of the parking spots (Environmental Registry #012-8208).

Ministry of Transportation launches a planning study to develop a long-term, multi-modal transportation plan for the Greater Golden Horseshoe.

3.3 Natural Gas

Utility Merger

The biggest news affecting Ontario's natural gas sector was not a new government policy, but the planned merger of Spectra Energy and Enbridge Inc., the parent companies of Ontario's two large gas distributors (Enbridge Gas Distribution and Union Gas). The OEB will not review the proposed merger. For now, the distribution utilities continue to run as separate businesses, but it seems inevitable that many business practices will become more similar between the two utilities following the merger.

Cap and Trade Compliance

Union and Enbridge will be among the largest participants in the carbon cap and trade program, as they will be required to hold allowances covering the emissions of all their Ontario customers (excluding certain large customers that are direct participants in the cap and trade program), and emissions from their own facilities (see Chapter 4 of *Facing Climate Change* for more details on the cap and trade program). Union and Enbridge will be required to file compliance plans with the OEB, detailing how they plan to meet their cap and trade obligations. The Board issued a *Regulatory Framework for Assessment of Costs of Natural Gas*

Utilities Cap and Trade Activities (EB-2015-0363) setting out how the OEB will assess these plans for the purpose of approving cost recovery from ratepayers. Union and Enbridge filed one-year compliance plans (for 2017) in November 2016. The 2017 plans rely on purchasing allowances, although plans for future years will likely also include abatement activities (e.g., building retrofits, delivering renewable natural gas, reducing leaks of fugitive emissions). In December 2016, the Board set natural gas rates to include the anticipated costs of cap and trade compliance (approximately 3.3 cents per cubic metre of natural gas), with the new rates taking effect in January 2017.

Union and Enbridge will be among the largest participants in the carbon cap and trade program.

Renewable Natural Gas

Another climate-related policy development affecting the natural gas sector was interest in renewable natural gas (RNG), e.g., methane from landfills, agricultural residues, or sewage treatment plants. In 2011, Enbridge and Union had applied to the Board for the ability to add an amount of RNG (at a higher price) to the gas supply they provide to customers. The Board did not approve the application, but invited Enbridge and Union to submit a revised proposal (the utilities declined to do so, believing it was unlikely to be approved). However, times have changed. The *Climate Change Action Plan* committed to introducing a renewable content requirement for natural gas, and the government has announced \$100 million in funding from the GGRA to help implement this. Late in 2016, the Minister of Energy wrote to the OEB to confirm the government's interest in the OEB examining how to incorporate RNG into Ontario's natural gas supply. In 2017, the OEB began the process of establishing a framework for assessing distributor gas supply plans that would include RNG.

Natural Gas Conservation

In January 2016, the OEB approved the new demand-side management plans of Enbridge and Union Gas covering the period 2015-2020 (2015 was treated as a transition year due to the delay in submitting and approving these plans; conservation results from 2015 programs are reviewed in Chapter 5 of this report). The new plans include higher conservation budgets and targets than under the 2012-2015 period, and new conservation programs. Mid-year, the OEB released a *Natural Gas Conservation Potential Study*, to assess how much natural gas use in Ontario can be reduced through conservation programs. The study estimates that consumption could be reduced by about 25% if all cost-effective actions are implemented, but that realistically, the potential is lower, and is dependent on customer uptake and utility budget. This study may be used as part of a mid-term review of the natural gas conservation framework to examine whether the savings targets for gas utilities are appropriate.

Consumption could be reduced by about 25% if all cost-effective actions are implemented.

Natural Gas System Expansion

Finally, the OEB (case EB-2016-0004) ruled out allowing the expansion of natural gas distribution systems to currently unserved communities to be subsidized through rate increases for existing customers. The Board broke from "postage stamp" ratemaking, by granting distributors flexibility to charge higher rates to customers in newly connected communities to recover expansion costs. This leaves distributors to decide whether such expansions will prove profitable and should be pursued. In response, in early 2017, the Ministry of Infrastructure announced a \$100 million grant program that would pay for some of these infrastructure costs.

Table 3.3. Key Natural Gas Initiatives in Ontario in 2016

2016	ACTIVITY
JANUARY	OEB issues decision on Enbridge and Union Gas's 2015-2020 conservation (or demand-side management) plans setting annual budgets, program savings targets, shareholder incentives and target metrics.
MARCH	OEB approves quarterly changes to the prices gas distributors will charge customers, effective April 1, 2016.
MAY	Government commits up to \$100 million over four years from the Greenhouse Gas Reduction Account to support the use of renewable natural gas in industry, transportation and buildings.
JUNE	OEB approves quarterly changes to the prices gas distributors will charge customers, effective July 1, 2016.
JULY	OEB releases <i>Natural Gas Conservation Potential Study</i> to inform natural gas conservation planning and programs. OEB issues determination on billing and customer outreach issues for the cap and trade framework for gas distributors, including allocation of how cap and trade costs will be recovered from natural gas customers, and determination that cap and trade charges will not appear as a separate charge on utility bill.
AUGUST	OEB issues new edition of <i>Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities</i> .
SEPTEMBER	OEB approves quarterly changes to the prices gas distributors will charge customers, effective October 1, 2016. OEB issues <i>Regulatory Framework for the Assessment of Costs of Natural Gas Utilities' Cap and Trade Activities</i> .
NOVEMBER	OEB issues decision (EB-2016-0004) regarding utility cost recovery for expansion of natural gas systems to unserved communities.

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OEB issues decision (EB-2016-0004) regarding utility cost recovery for expansion of natural gas systems to unserved communities.

Gas utilities file proposed cap and trade compliance plans with OEB (EB-2016-0296, EB-0216-0300, EB-2016-0330).

DECEMBER

OEB announces it does not plan to review the proposed merger of Enbridge (the parent of gas utility Enbridge Gas Distribution) and Spectra Energy (the parent of gas utility Union Gas).

Ministry of Energy issues letter encouraging the OEB to examine renewable natural gas as a part of gas utility supply portfolios.

OEB approves quarterly charges to the prices gas distributors will charge customers, effective January 1, 2017, including cap and trade compliance costs.



3.4 Electricity

Electricity Pricing

Pressure to keep electricity rates as low as possible reasserted itself in 2016 (disproportionately to the actual impact of electricity rates). The year began with the removal of the Debt Retirement Charge from residential bills (non-residential consumers will continue to pay the charge until March 31, 2018). Also in January 2016, the Ontario Electricity Support Program was launched to provide additional financial assistance on electricity bills to low-income consumers.

Two more initiatives to provide price breaks to different segments of consumers were launched in October. The *Ontario Rebate for Electricity Consumers Act, 2016* rebates the 8% provincial portion of the Harmonized Sales Tax from the electricity bills of households, farms, and small businesses. Simultaneously, the government increased the amount of subsidy provided to customers in rural and remote areas, who pay higher rates for delivery of their electricity due to lower density. {In

2017, the Ministry of Energy took further action to reduce residential electricity bills through the Fair Hydro plan. In line with the ECO's recommendation in Chapter 6 of *Facing Climate Change*, the Ministry chose not to follow through with its original plan to use funding from the Greenhouse Gas Reduction Account to reduce electricity rates.}

None of the measures described above reduces the true cost of supplying Ontario's electricity; instead they transfer costs from electricity ratepayers to taxpayers, or from one group of ratepayers to another. In contrast, two actions in 2016 attempted to adjust pricing signals to reduce peak demand; in the short term, these initiatives also transfer costs between ratepayer groups, but they hold potential over the longer term to deliver savings to all electricity customers. First, in June the OEB issued the *Regulated Price Plan Roadmap: Guideline for Pilot Projects on RPP Pricing*, a call for pilot projects to assess alternatives to the current time-of-use pricing structure. These pilots will test pricing or technological solutions to enable more customers to shift the timing of their electricity use away from peak hours. Second, the Ministry of Energy expanded the Industrial Conservation Initiative program for large industries by lowering the threshold for eligibility to one megawatt (MW) average monthly demand and adding several industrial customer types. This program enables participants to reduce their electricity bills if they conserve power during times of system-wide peak demand.

Pressure to keep electricity rates as low as possible reasserted itself in 2016.

Renewable Electricity

It was a very busy year for renewable electricity procurement and policy. In March, the IESO concluded the Large Renewable Procurement I (LRP I), a return to the competitive procurement model for large renewable projects. Contracts were awarded to 16 new wind, solar, and hydro projects totalling 455 MW, at lower prices (averaging 8.6 cents/kilowatt-hour for wind and 15.7 cents/kilowatt-hour for solar) than the previous feed-in tariff (FIT) model with fixed pricing. The Minister of Energy then issued an April directive to the IESO to commence a second phase (LRP II) to procure almost 1,000 MW of additional renewable energy projects. However, in September, the Minister abruptly reversed course and suspended this procurement through a second directive, due to Ontario's strong supply position, and to save costs for ratepayers. It is unclear whether this decision means that the Ministry's overall renewable electricity targets (10,700 MW of non-hydro renewables by 2021, 9,300 MW of hydro by 2025) will also be revised.

While the Ministry was having second thoughts about new Ontario renewable energy projects, it opened the door to greater utilization of Quebec's hydroelectric resources. An agreement signed in December between Hydro-Québec and the IESO will allow Ontario to purchase two terawatt-hours of electricity annually for the next seven years from Quebec, using existing interconnections between the two provinces. Ontario indicated that this firm source of power will reduce the use of gas-fired generation (and the associated greenhouse gas emissions), during the period of nuclear refurbishment.

For smaller renewable energy projects (primarily solar), the Ministry of Energy continued to wind down the FIT and microFIT programs, with directions confirming that 2016 and 2017 would be the last year applications would be accepted for the FIT and microFIT programs, respectively. The programs will be replaced with net metering, whereby customers are credited on their electricity bill for the amount of renewable energy produced, and pay only for the net amount of energy consumed. The Ministry of Energy consulted on proposed regulatory changes to enable net metering in 2016 (Environmental Registry #012-8435), and finalized a regulation in early 2017.

Refurbishments at Darlington and Bruce are to be staged over a period of almost 20 years.

Nuclear Refurbishment

In January 2016, the Ministry of Energy announced that it had approved Ontario Power Generation (OPG)'s plans both to extend the life of the Pickering station to 2024 and to refurbish the four nuclear reactors at Darlington. The Pickering plant had been scheduled to close in 2020 and will require approval for continued operation from the Canadian Nuclear Safety Commission. The refurbishments at Darlington are in addition to planned refurbishments of six units by Bruce Power, which reached a contractual agreement with the IESO at the end of 2015. Refurbishments at Darlington and Bruce are to be staged over a period of almost 20 years, and the first of these units to be refurbished went off-line at Darlington in October 2016. Unlike Bruce Power, the price paid for electricity production from OPG's nuclear assets must be reviewed and approved by the OEB. In May, OPG filed a five-year application with the OEB (EB-2016-0152) that includes the costs of the first Darlington unit refurbishment and the Pickering extension. The application (as amended) requests an increase of 2.5% in the unit price paid for OPG's nuclear and hydroelectric production for each of the five years (primarily due to the Darlington refurbishment), and would increase residential electricity bills by about \$3.25 per month by the end of the five-year period, if approved as filed. The application is still under review by the OEB.

Ownership of Electric Utilities

The Ontario government continued to reduce its ownership role in Ontario's electricity sector. In May, the government completed a second round of sales of shares in Hydro One, raising \$2 billion. The province has now reduced its ownership stake in Hydro One from 100% to 70%, with plans to eventually hold only a 40% ownership interest. In addition, distribution utilities PowerStream,

Horizon, and Enersource merged into one, and the new entity purchased Hydro One Brampton (a separate company from Hydro One) from the province for \$607 million. The OEB approved this merger in December 2016. The new consolidated distributor (now known as Alectra Utilities) will be the second-largest in Ontario with nearly one million customers in York Region, Simcoe County, Peel Region, Hamilton and St. Catharines, trailing only Hydro One in size.

Electricity Conservation Programs

All Ontario electric utilities migrated fully to the new Conservation First framework of conservation program delivery in 2016, following a transition year in 2015 (2015 electricity conservation program results are reviewed in Chapter 6 of this report). The Minister of Energy directed the IESO to initiate two new electricity

conservation programs – a “whole home” retrofit pilot for residential customers integrating gas and electricity conservation, and a pay-for-performance conservation program for businesses with multiple locations across Ontario. The IESO completed an *Achievable Potential Study* (in parallel to the study for the natural gas sector) to assess how much electricity use in Ontario can be reduced through conservation programs. The study concluded that the existing conservation target for electric distributors (seven terawatt-hours in 2020) is realistic, given the timeframe and budget. In December, the IESO held its second annual demand response auction, in which electricity consumers commit to reducing electricity use when needed (as an alternative to procuring new supply resources), in return for a payment from the IESO. Prices from the auction were 12-17% lower than the first auction in 2015.



Table 3.4. Electricity Initiatives in Ontario in 2016

2016	ACTIVITY
<p>JANUARY</p>	<p>Debt Retirement Charge removed from residential electricity bills</p> <p>Ontario Government approves OPG’s plan to refurbish the four units at Darlington nuclear generating station and continue operation of Pickering nuclear generating station until 2024.</p> <p>Ontario Electricity Support Program takes effect to provide low-income electricity consumers with a credit to lower their bills.</p>
<p>FEBRUARY</p>	<p>OEB issues updated Regulated Price Plan Manual reflecting objectives in 2015-issued <i>Regulated Price Plan Roadmap</i>.</p>
<p>MARCH</p>	<p>Government approves the sale and municipal councils of Barrie, Markham, Vaughan, Mississauga, Hamilton and St. Catharines approve the merger of Hydro One Brampton with a new company comprised of Powerstream, Enersource and Horizon.</p> <p>OEB releases discussion paper on rate design options for commercial and industrial electricity customers.</p> <p>IESO issues <i>Energy Storage</i> report summarizing lessons learned from storage procurement and options for integration of storage into the electricity market.</p>

IESO concludes first phase of competitive large renewable energy procurement (LRP I), offering contracts to 16 wind, solar, and hydro projects totalling 455 MW of capacity.

APRIL

Ministry of the Environment and Climate Change amends the environmental approvals regulation (O. Reg. 359/09) for renewable energy projects.

Minister directs the IESO to procure renewable energy resources through a second phase of the large renewable energy procurement (LRP II).

OEB releases report defining typical electricity customer and adopts 750 kilowatt-hours per month as the typical consumption metric.

MAY

OPG initiates rate filing with OEB (EB-2016-0152) for prescribed generation assets from 2017-2021, including cost recovery for nuclear refurbishment.

Ministry of Northern Development and Mines initiates consultation on future design of the Northern Industrial Electricity Rate Program (Environmental Registry #012-7448)

Updated Regulated Price Plan (summer) electricity commodity prices take effect.

Government completes second share offering of Hydro One, raising \$2 billion.

JUNE

IESO releases *Achievable Potential Study* for electricity conservation.

Minister directs IESO to design a pay-for-performance conservation program for consumers located in several regions of the province and are served by multiple distributors, and a whole home pilot program for residential consumers.

IESO offers FIT 4 contracts (936 contracts, 241 MW) to developers, cooperatives, municipalities or public sector entities, and indigenous communities.

GTA East Regional Planning, IESO issues Integrated Regional Resource Plan (IRRP) for Pickering-Ajax-Whitby sub-region.

Northwest Regional Planning, IESO issues IRRP for Greenstone-Marathon sub-region

Burlington to Nanticoke regional planning, IESO issues IRRP for Bronte sub-region

JULY

Government selects Wataynikaneyap Power to connect 16 remote First Nation communities in northwestern Ontario, currently relying on diesel power, to the province's electricity grid, with work to start in 2018.

Northwest Regional Planning, IESO issues IRRP for West of Thunder Bay sub-region.

OEB issues guideline and technical manual for distributors to implement time-of-use pricing pilot projects.

OEB issues 2015 system-wide supply mix data under O. Reg. 416/99, disclosure by electricity retailers.

AUGUST

Ministry of Energy proposes amendments to net metering regulation (O. Reg. 541/05), with the intent of transitioning small renewable electricity project development (particularly solar) from a feed-in tariff to net metering (Environmental Registry #012-8435).

SEPTEMBER

Minister directs the IESO to suspend the second round of the Large Renewable Procurement process (LRP II) and the Energy-from-Waste Standard Offer Program, halting procurement of 1,000 MW of renewable energy projects.

OCTOBER

Legislature passes the *Ontario Rebate for Electricity Consumers Act, 2016* (and subsequently files supporting regulations in November), to reduce electricity bills by providing an 8% credit to residential customers, small businesses and farms.

OEB announces that updated Regulated Price Plan (winter) electricity commodity prices will remain unchanged.

OPG shuts down and begins refurbishment of first unit (Unit 2) at Darlington nuclear station.

Government signs an agreement-in-principle with Quebec to annually import up to two terawatt-hours of power from 2017-2023, and Minister of Energy directs IESO to enter into an electricity trade agreement with Quebec.

OEB approves Hydro One's purchase of Great Lakes Power Transmission which will operate as a stand-alone transmitter under the name Hydro One Sault Ste. Marie starting in 2017.

NOVEMBER

Ministry of Energy expands eligibility for the province's Industrial Conservation Initiative (critical peak pricing) to smaller customers and additional sectors, through an amendment to O. Reg. 429/04.

Ministry of Energy increases financial assistance to rural and remote electricity customers to \$243 million annually, through an amendment to O. Reg. 442/01.



DECEMBER

OEB approves merger of Hydro One Brampton, Powerstream, Enersource and Horizon (EB-2016-0025,EB-2016-0360).

Minister directs IESO to make several changes to the Conservation First Framework.

IESO and Hydro-Québec conclude electricity trade agreement.

IESO issues IRRPs for the two sub-regions in the South Georgian Bay/Muskoka Planning Region – Parry Sound/Muskoka and Barrie/Innisfil, and for the Thunder Bay sub-region in the Northwest Planning Region.

Ministry of Energy amends regulation (O. Reg. 95/05) under the Ontario Energy Board Act, 1998, to allow the Ontario Energy Board flexibility in setting time-of-use periods for electricity rates in pilot projects.

IESO concludes second Demand Response auction, securing approximately 450 MW of demand response capacity for 2017.

OEB issues 2015 conservation program results for electricity distributors.

