

ONTARIO ENERGY QUARTERLY Q2 2019

APRIL – JUNE 2019
ELECTRICITY

Ontario Grid-Connected Peak Demand (Q2)

20,248 MW

Set on June 27, 2019, 7:00 pm EST

Source: IESO

Transmission Grid-Connected Generation Output (Q2)

Nuclear	21.7 TWh	61.7%
Hydro	10.0 TWh	28.5%
Wind	2.1 TWh	5.9%
Gas	1.1 TWh	3.1%
Solar	< 1 TWh	0.6%
Biofuel	< 1 TWh	0.2%

Source: IESO

Conservation Savings (Q2)

Net Peak Demand Savings	7 MW
Net Energy Savings	30 GWh

Source: IESO

Ontario Grid-Connected Peak Demand (YTD)

21,525 MW

Set in Q1 – January 21, 2019, 6:00 pm EST

Source: IESO

Commodity Cost – Class A (¢/kWh)

	Q2	YTD
Hourly Ontario Energy Price (Unweighted average)	0.85	1.75
Global Adjustment (Average, Class A) ¹	6.66	5.92
Total	7.51	7.67

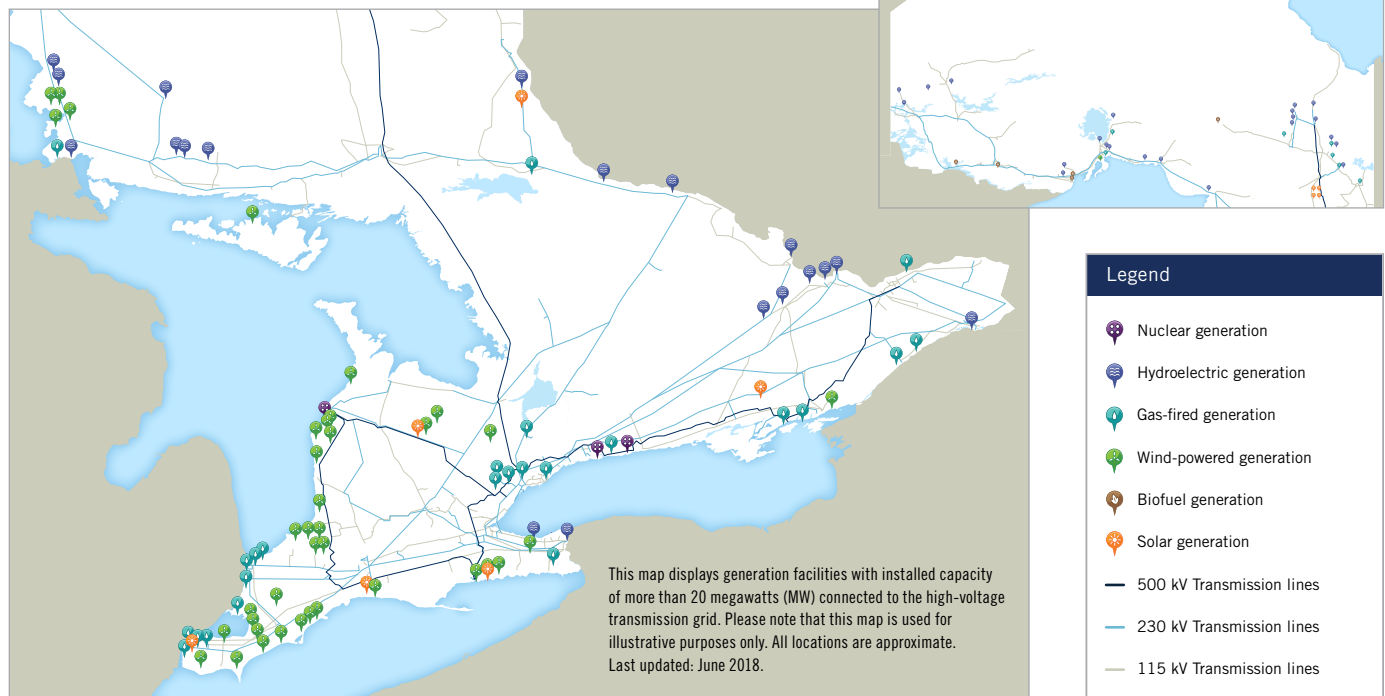
Source: IESO

Commodity Cost – Class B (¢/kWh)

	Q2	YTD
Hourly Ontario Energy Price (Weighted Average)	0.93	1.92
Global Adjustment (Average, Class B) ¹	12.88	10.38
Total	13.81	12.30

Source: IESO

Ontario's Transmission Grid

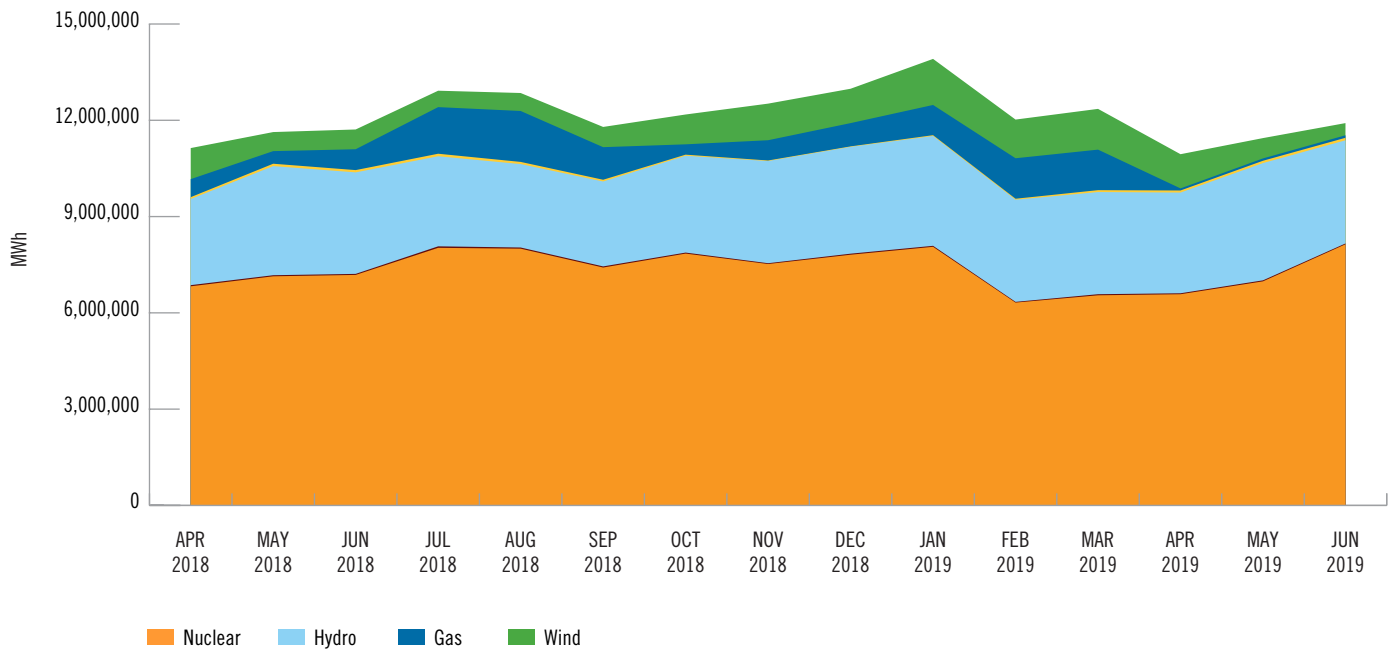


1. Class A customers are large electricity consumers that pay Global Adjustment based on their proportion of energy use during the five hours of the year with the highest demand. All other customers are Class B, and pay GA on a volumetric basis.

Electricity Supply

Monthly Energy Grid Output by Fuel Type

Ontario's bulk electricity grid has a diverse supply mix, featuring baseload generators that provide energy around the clock, intermittent generators that generate when they are able (primarily wind and solar), and flexible generators that can change their output quickly (primarily natural gas).



Source: IESO

Note: Total MW value may not add up to sum of column totals due to rounding.

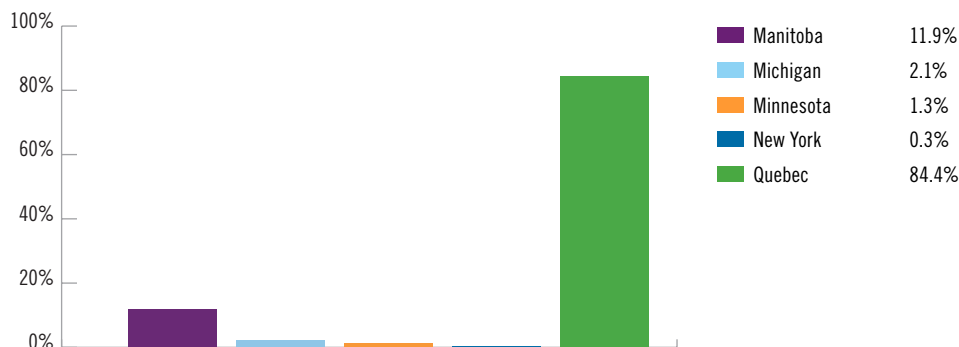
The data shown above is sourced from a report developed by the IESO, available at reports.ieso.ca/public/GenOutputbyFuelMonthly/PUB_GenOutputbyFuelMonthly.xml. The report uses settlement data to provide information for all self-schedulers, intermittent and dispatchable Ontario generators registered as a Market Participant. The report – which includes all grid-connected generators, plus those embedded generators that are also registered as market participants – is published monthly as per the Physical Settlement calendar.

Imports and Exports

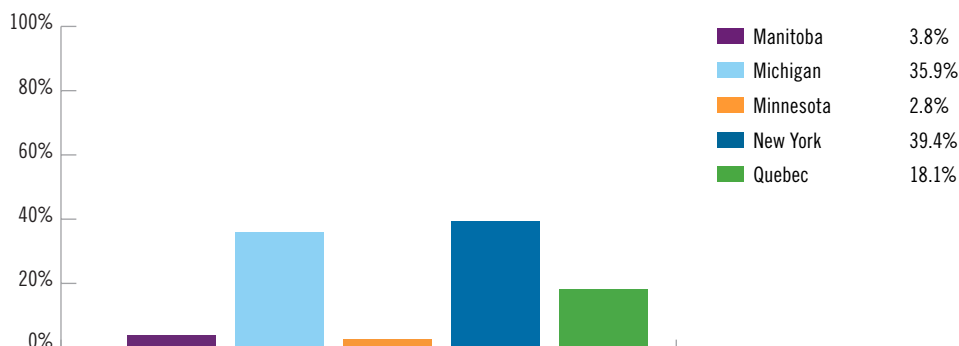
Ontario is connected to a large, stable network of transmission systems across North America, which supports system reliability and economic efficiency. Imports compete against domestic generation to provide energy at the best possible price and to support the province's needs during periods of high demand. Ontario also exports energy when it is economic, which helps to bring in revenue to offset other system and infrastructure costs and maintain system reliability during times of surplus generation.

Ontario imports and exports power across 26 interties with two provinces and three states. While Ontario is electrically interconnected with Manitoba, Michigan, Minnesota, New York and Quebec, the interties allow for electricity trade in transactions that can reach across eastern North America, contributing to a more diversified and competitive pool of supply.

Q2 Imports



Q2 Exports



Q2 (GWh)	Manitoba	Michigan	Minnesota	New York	Quebec	Total
Imports	106.84	18.68	11.43	2.64	756.66	896.25
Exports	197.25	1,849.81	141.83	2,027.34	929.47	5,145.70

Note: Numbers may not add up to totals due to rounding.

Source: IESO

Installed Capacity Connected to Transmission Grid

Changes to installed transmission grid capacity in this quarter highlight the continuing process of renewal in Ontario's electricity sector. While nuclear, hydroelectric and natural gas production accounted for the vast majority of bulk supply, new wind, biofuel and solar generators continued to connect to the transmission grid.

The [IESO Active Generation Contract List](#) provides the status of individual contracted electricity supply projects within different IESO procurement programs. The list is limited to generation facilities under contract to the IESO.

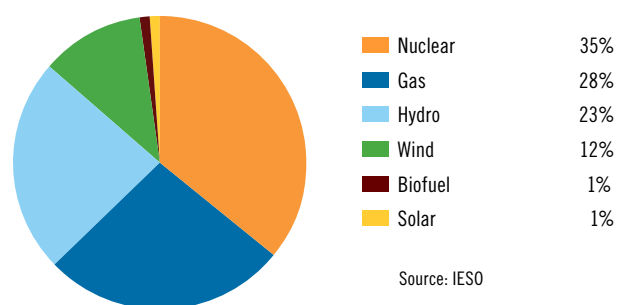
New Facilities Registered in Q2

The following projects have completed commissioning and the market entry process and are included in the total installed IESO Market Participant generator capacity:

- Nanticoke Solar – 44 MW

**Note: One facility was approved for deregistration and another changed its rating. Therefore, the values presented in the Grid-Connected Capacity are lower.*

Grid-Connected Generation Capacity



Note: Data includes all transmission-connected generation facilities and distribution-connected facilities that are Market Participants. Numbers may not add up to totals due to rounding.

The table below shows the increased use of renewable resources for generating electricity in the province.

Grid-Connected Generation Capacity

Year (MW)	Nuclear	Hydro	Coal	Gas*	Wind	Biofuel	Solar	Total
2019 YTD	13,009	8,499	0	10,277	4,486	295	424	36,989
2018	13,009	8,482	0	10,277	4,486	295	380	36,929
2017	13,009	8,490	0	10,277	4,213	495	380	36,863
2016	12,978	8,451	0	9,943	3,923	495	280	36,070
2015	12,978	8,432	0	9,942	3,504	495	240	35,591
2014	12,947	8,462	0	9,920	2,543	455	40	34,367
2013	12,947	7,939	2,291	9,920	1,725	124	0	34,946

* Units that use natural gas, oil or are dual fuel, such as Lennox, NP Kirkland and NP Cochrane, are included in the Gas category.

Source: IESO

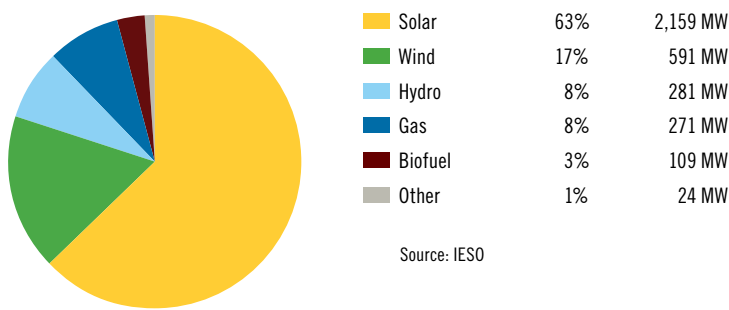
Note: Numbers may not add up to totals due to rounding.

Embedded Generation (IESO-contracted)

Embedded generators supply electricity to local distribution systems, helping to reduce demand on the transmission grid and supporting some of the needs of local communities. While wind and solar make up the majority of contracted embedded generation, the IESO has contracted for increasing amounts of hydroelectric, combined heat and power, natural gas and biofuel systems that will also connect to local distribution networks.

By the end of Q2 2019, there was 3,436 MW of contracted generation in commercial operation within local distribution systems.

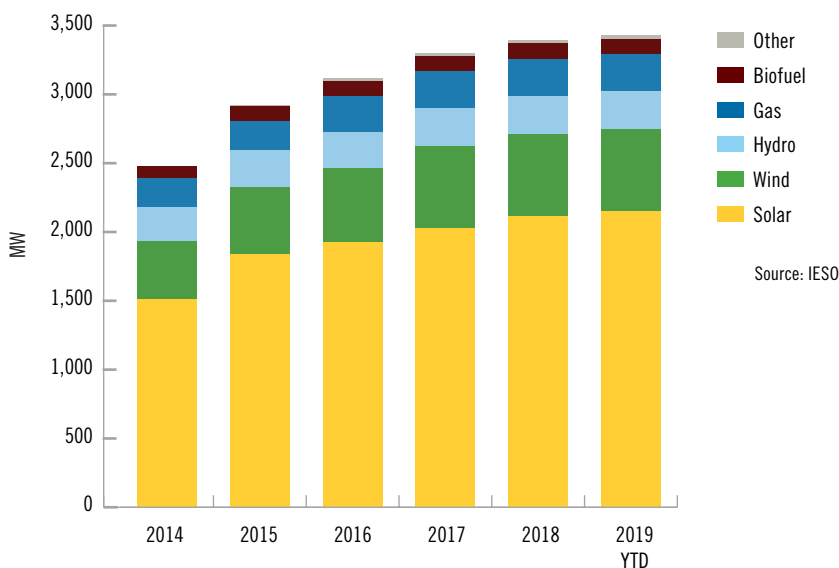
Contracted Embedded Generation Capacity in Commercial Operation (Q2)



Note: Numbers may not add up to totals due to rounding.

The table below shows the increased use of embedded generation to supply electricity to local distribution systems in the province.

Contracted Embedded Generation Capacity in Commercial Operation



Note: Total IESO-contracted embedded generation in commercial operation at end of each period. Numbers may not add up to totals due to rounding.

The data shown above are sourced from the IESO Progress Report on Contracted Supply. The report provides a quarterly update on the status of supply and procurement initiatives that are under development or in commercial operation, by fuel type, and aggregates total capacities as stated in each contract, which differs from values on installed capacity used for operation purposes. The report is available at ieso.ca/power-data/supply-overview/transmission-connected-generation.

Total Grid-Connected and Contracted Embedded Generation Capacity

This table shows all grid-connected capacity and IESO-contracted embedded capacity in the province.

Year	Nuclear	Hydro	Coal	Gas	Wind	Biofuel	Solar	Other	Total
2019 Q2 (MW)	13,009	8,780	0	10,548	5,076	404	2,583	24	40,424
2019 Q2 (%)	32%	22%	0%	26%	13%	1%	6%	<1%	

Note: Numbers may not add up to totals due to rounding.

Available Capacity at Peak**25,931 MW (Q2)**

Peak Demand 20,248 MW (Q2)

Operating Reserve Requirement

1,432 MW (Q2)

Minimum Demand 10,328 MW (Q2)

Source: IESO

Available capacity is all installed grid-connected capacity, less allowances made for seasonal derates, planned outages and the capacity of energy-limited resources. Reserves are required to ensure that the forecast Ontario Demand can be supplied with a sufficiently high level of reliability. Operating Reserve is the amount of supply resources required to handle the loss of the largest contingency on the grid, plus the loss of half the amount of the second largest contingency. More information on the criteria, tools and methodology the IESO uses to perform resource adequacy assessments can be found at ieso.ca/power-data/market-summaries-archive.

Conservation

The province established three targets in electricity saving² to be achieved through conservation programs for the period of 2015-2020.

1) the Conservation First Framework (CFF) delivered by LDCs and the IESO with a newly revised target of 6.0 terawatt-hours (TWh); 2) to fill the gap of the old target of 7.4TWh the newly establish Interim Framework (IF) as of March 22, 2019 has a target of 1.4 terawatt-hours and 189 megawatts (MW); and 3) the Industrial Accelerator Program (IAP) delivered to transmission-connected customers by the IESO with a target of 1.3 TWh. Overall the province continues to expect to achieve 8.7 TWh in savings by December 31, 2020. Programs reach all sectors and provide customers with incentives to help them use energy wisely.

As of Q2 2019, CFF Programs have achieved 6,227 gigawatt-hours (GWh) in electricity savings representing 104% of the 6.0 TWh target, and the IAP Program has achieved 427 GWh in electricity savings representing 33% of the 1.3 TWh 2020 target. The newly created IF Programs have achieved 8 GWh and 1MW in electricity and demand savings representing 1% of the 1.4 TWh and 1% of the 189 MW 2020 targets.

Conservation Portfolio Progress – Results (as of 2019 Q2)³

Incremental Progress		2019 Q2 Incremental	2015-2019 Q2 Incremental	2020 Target Progress (%)
LDC & IESO Delivered CFF	Peak Demand Savings (MW)	4	792	-
	Energy Savings (GWh)	20	6,227	104
IESO Delivered IAP	Peak Demand Savings (MW)	2	119	-
	Energy Savings (GWh)	2	427	33
IESO Delivered IF	Peak Demand Savings (MW)	1	1	1
	Energy Savings (GWh)	8	8	1
Total Portfolio	Total Peak Demand Savings (MW)	7	912	-
	Total Energy Savings (GWh)	30	6,663	-

Note: Totals may not align due to rounding.

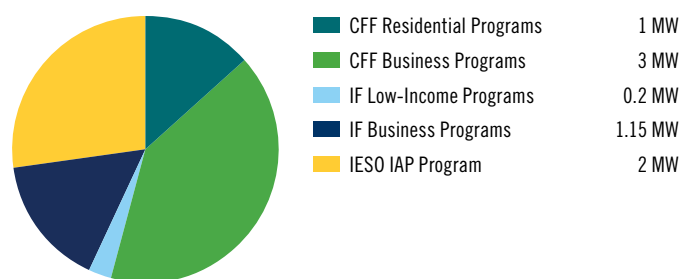
Source: IESO

2. All conservation metrics above are presented as 'net' savings which take into consideration the actual influence of the program on participants (e.g., estimating free-ridership and spill over savings). Furthermore, all savings presented above persist until the year 2020 at the end-user level (e.g., accounting for transmission and distribution system line losses). To align savings with generation level metrics, values should be increased by factor of 6.7% for distribution system level savings or a factor of 2.5% for transmission system level savings.

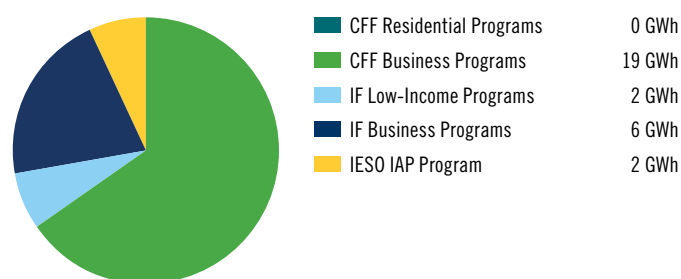
3. Results presented are 'reported' (i.e. 'unverified') based on project installation dates corresponding to the indicated period and are based on projects reported and invoiced to the IESO as of 2019 Q2.

Incremental Savings (2019 Q2)

2020 Annual Peak Demand Savings



2020 Annual Energy Savings



Source: IESO

Note: Numbers may not add up to totals due to rounding.

Demand Response (DR)

Demand response and peak savings programs benefit the electricity system and lower energy costs for consumers by contributing to overall peak savings for the province.

Beginning in December 2015, DR capacity has been procured through a competitive DR Auction process. The DR Auction provides a transparent and cost-effective way to select the most competitive providers of DR, while ensuring that all providers are held to the same performance obligations.

The December 2018 DR auction procured 818.4 MW for the summer six-month commitment period beginning on May 1, 2019, and 854.2 MW for the winter six-month commitment period beginning on November 1, 2019.

More information on the Demand Response Auction is available at: ieso.ca/en/sector-participants/market-operations/markets-and-related-programs/demand-response-auction

Peak Savings

The Industrial Conservation Initiative (ICI) encourages large consumers to shift their energy use away from system-wide peaks. Customers who are able to reduce their impact on peaks benefit the system by reducing the need to build new infrastructure. In 2017, ICI is estimated to have reduced peak demand by 1,400 MW. Participating customers are assessed an individual Global Adjustment (GA) rate, based on the percentage that their demand contributes to the top five system coincident peaks measured during a defined base period.

The table below lists the top five daily peaks for the most recent base period, which began on May 1, 2018, and ended on April 30, 2019.

Top 5 Peaks: Hours & System-Wide Consumption (Base Period: May 1, 2018 to April 30, 2019)

Date	Hour Ending	Allocated Quantity of Energy Withdrawn (MW)	Embedded Generation (MW)	Energy Storage Injections (MWh)	Total (MW)
September 5, 2018	17	22,551.315	1,076.151	0.446	23,627.020
July 5, 2018	15	22,415.022	1,418.704	0.008	23,833.718
July 4, 2018	18	22,122.730	734.709	0.393	22,857.046
August 28, 2018	17	21,643.799	1,069.941	0.581	22,713.159
September 4, 2018	17	21,379.327	803.919	0.759	22,182.487

Note: The value in the Total (MW) column is the number used to calculate a customer's Peak Demand Factor. The above values are used for the adjustment period May 1, 2018 to April 30, 2019.

Source: IESO

Information on peak tracking can be found at ieso.ca/sector-participants/settlements/global-adjustment-for-class-a

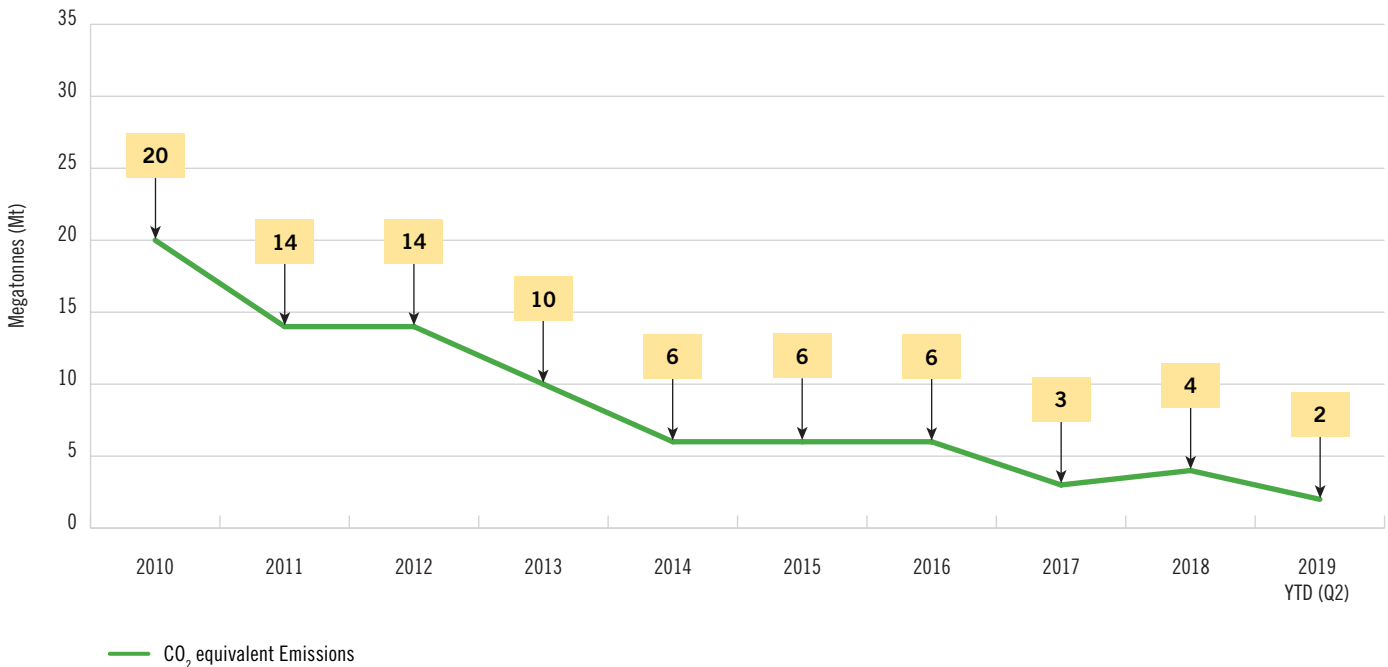
More information on the ICI is available at ieso.ca/-/media/files/ieso/document-library/global-adjustment/ici-backgrounder.pdf?la=en.

Greenhouse Gas Emissions

The marked decline in greenhouse gas emissions (measured in tonnes of CO₂ equivalent) is a result of the phase-out of coal-fired electricity generation in the province and uptake of renewable generation and conservation measures. Emissions of oxides of sulphur (SO_x) – which are predominantly a by-product of coal combustion – have also shown a marked decrease with the phase-out of coal-fired electricity.

Greenhouse Gas Emissions for the Ontario Electricity Sector

The chart below shows annual greenhouse gas emissions (measured in tonnes of CO₂ equivalent) for the years 2010-2019. Year-to-date greenhouse gas emissions in Q2 2019 totalled approximately 2 megatonnes (Mt).



Source: IESO, Environment Canada, Ontario Ministry of Environment and Climate Change

Air Contaminants

Air contaminants, including oxides of sulphur (SO_x), oxides of nitrogen (NO_x) and fine particulate matter (PM_{2.5}), are also released during combustion of fossil fuels.

Air Contaminants for the Ontario Electricity Sector (Tonnes)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 YTD (Q2)
SO _x Emissions	38,507	11,966	10,342	10,192	846	424	579	644	504	254
NO _x Emissions	27,358	18,198	19,867	17,973	11,448	10,355	9,323	5,695	5,924	2,979
PM _{2.5} Emissions	843	518	468	445	309	262	239	195	210	105

Source: IESO, Environment Canada

Electricity Demand

Electricity demand is generally shaped by several factors that have differing impacts – those that increase demand (population growth, economic change), those that reduce demand on the grid (conservation, embedded generation) and those that shift demand (time-of-use rates, the Industrial Conservation Initiative). The impact of each of these factors on electricity consumption varies by season and time of day.

Even as the Ontario economy has moved beyond the 2008 recession, demand has remained flat. As capacity and energy margins remain adequate, this trend is expected to continue, partly because of the successful implementation of conservation initiatives.

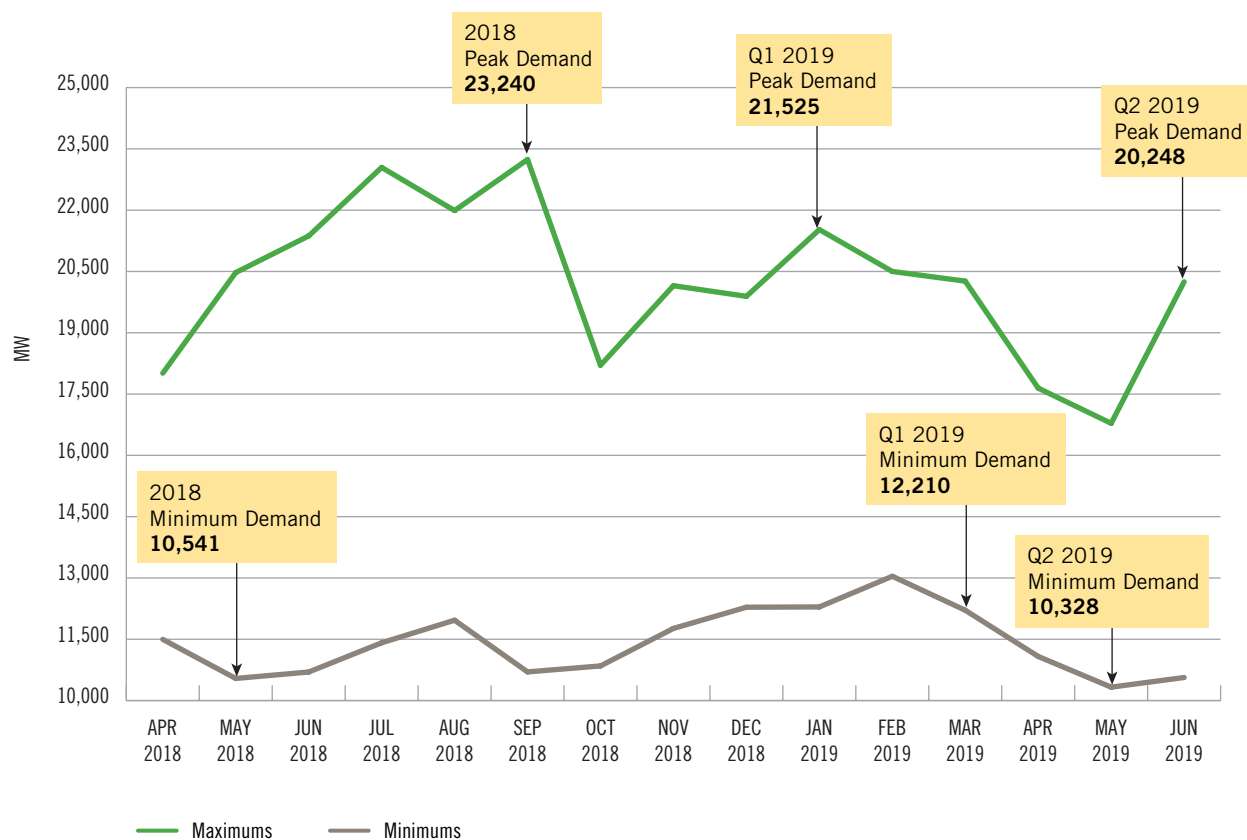
Growth in embedded solar and wind generation capacity and on-going conservation initiatives reduce the need for energy from the bulk power system, while also putting downward pressure on peak electricity demands.

Ontario Grid-Connected Peak Demand in Q2

20,248 MW

Set on June 27, 2019, 7:00 pm EST

Ontario Monthly Peaks and Minimums



Source: IESO

Forecast Demand Peaks

The demand for electricity on the provincial grid is forecast on a rolling 18-month basis. An assessment is done to assure the adequacy of the existing and proposed generation and transmission facilities to meet demand needs. The chart below presents normal weather forecasts, representing a typical peak for the time of year, and extreme weather forecasts that reflect severe weather conditions. The impacts of time-of-use rates and the Industrial Conservation Initiative – which incent customers to reduce demand in peak demand hours – are also factored into the demand forecast in this report.

Season	Normal Weather Peak (MW)	Extreme Weather Peak (MW)
Winter 2019-20	21,115	22,288
Summer 2020	22,138	24,500
Winter 2020-21	21,160	22,456

Source: IESO Reliability Outlook

Ontario Grid-Connected Energy Demand

Year	Q2 Total (TWh)
2019 YTD	30.85
2018	31.92
2017	30.60
2016	31.98
2015	31.58
2014	32.71
2013	32.90

Note: Total does not include the impact of embedded generation to reduce demand.

Source: IESO Power Data, Demand Overview

Historical Totals – Annual Ontario Grid-Connected Energy Demand

Year	Total (TWh)	Change Over Previous Year
2019 YTD	66.6	n/a
2018	137.4	5.3
2017	132.1	-4.9
2016	137.0	0.0
2015	137.0	-2.8
2014	139.8	-0.9
2013	140.7	-0.6

Note: Total does not include the impact of embedded generation to reduce demand.

Source: IESO Power Data, Demand Overview

Electricity Prices

Commodity Cost

Commodity cost comprises two components, the wholesale price (the Hourly Ontario Energy Price) and the Global Adjustment. The commodity cost is only a portion of the total energy bill.

Class A

Month (¢/kWh)	APR 2018	MAY 2018	JUN 2018	JUL 2018	AUG 2018	SEP 2018	OCT 2018	NOV 2018	DEC 2018	JAN 2019	FEB 2019	MAR 2019	APR 2019	MAY 2019	JUN 2019	2019 YTD Avg.
HOEP*	2.86	1.15	1.67	2.86	2.89	2.69	1.28	2.36	2.66	2.64	2.71	2.67	1.48	0.70	0.37	1.75
Average Class A Global Adjustment Rate	4.99	5.24	5.99	5.21	4.77	4.75	6.30	5.25	4.87	5.32	5.43	4.81	6.37	6.42	7.18	5.92
Total Cost of Commodity	7.85	6.39	7.66	8.07	7.66	7.44	7.58	7.61	7.53	7.96	8.14	7.48	7.85	7.12	7.55	7.67

*(Unweighted) average of Hourly Ontario Energy Prices to reflect a typical (flat) industrial consumption profile.

Source: IESO

Class B

Month (¢/kWh)	APR 2018	MAY 2018	JUN 2018	JUL 2018	AUG 2018	SEP 2018	OCT 2018	NOV 2018	DEC 2018	JAN 2019	FEB 2019	MAR 2019	APR 2019	MAY 2019	JUN 2019	2019 YTD Avg.
HOEP*	2.97	1.31	1.83	3.04	3.06	2.99	1.38	2.51	2.79	2.78	2.79	2.73	1.56	0.76	0.48	1.92
Class B Global Adjustment Rate	9.96	10.79	11.90	7.74	7.49	8.58	12.06	9.86	7.40	8.09	8.81	8.04	12.33	12.60	13.73	10.38
Total Cost of Commodity	12.93	12.10	13.73	10.78	10.55	11.57	13.44	12.37	10.19	10.87	11.60	10.77	13.89	13.36	14.21	12.30

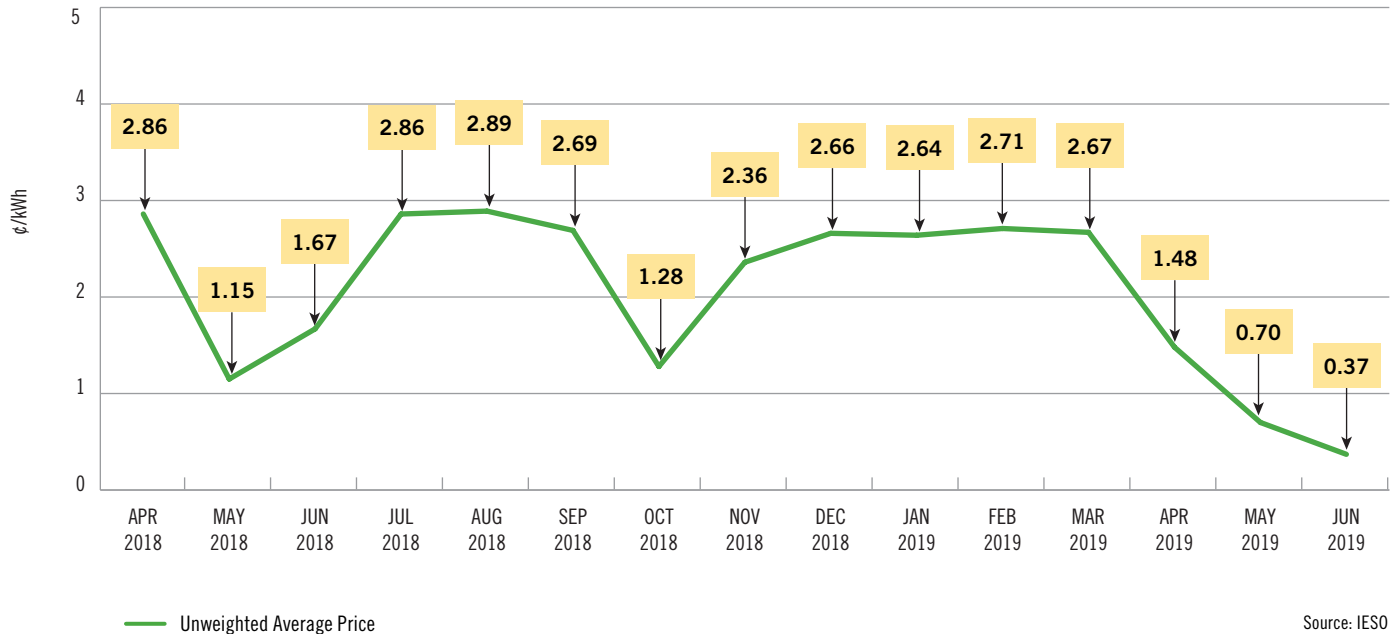
*Averages are weighted by the amount of electricity used throughout the province within each hour to broadly reflect the consumption profile of Class B (i.e., residential and commercial) consumers.

Source: IESO

Totals do not sum due to dollar values that are rounded down to cents.

Monthly Wholesale Electricity Prices

The wholesale electricity price fluctuates by the hour. This chart shows the average wholesale prices for each month. The monthly price varies depending on factors in the electricity market that shift the energy price higher or lower. A higher average monthly price exerts a downward pressure on costs that needs to be recovered through Global Adjustment.



Time-of-Use Pricing under the Regulated Price Plan (RPP)

In accordance with the mandate provided under the *Ontario Energy Board Act, 1998*, the OEB developed the Regulated Price Plan (RPP), which provides residential and small business consumers with stable and predictable electricity pricing and encourages conservation. The plan has been in place since 2005.

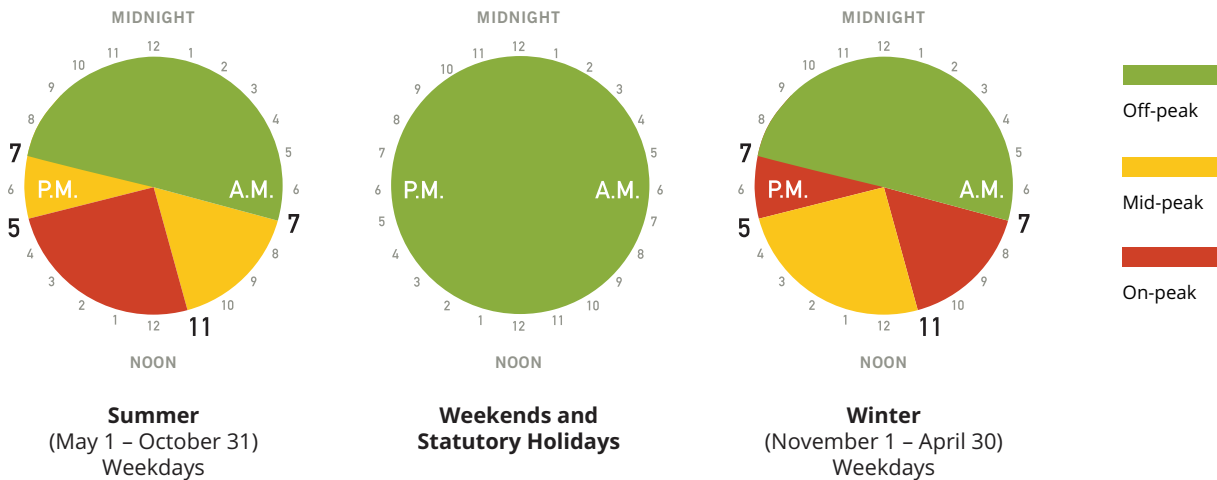
RPP consumers with eligible time-of-use (or “smart”) meters that can determine when electricity is consumed during the day pay RPP prices under a time-of-use price structure. The prices for this plan are based on three time-of-use periods per weekday. These periods are referred to as off-peak, mid-peak and on-peak and are shown in the figure below. The hours for mid-peak and on-peak periods are different in the summer and winter months to reflect energy consumption patterns in those seasons, as explained below.

Since July 2017, the OEB has been setting electricity prices for RPP consumers under the *Ontario Fair Hydro Plan Act, 2017*. This legislation established the framework under which eligible consumers (referred to in the legislation as “specified consumers”) see their electricity bills reduced through RPP prices. On March 22, 2019, the Ontario government introduced changes to the approach the OEB is required to follow when setting RPP prices for the May 1, 2019 to October 31, 2019 period. The revised regulation requires that prices are set so that the monthly bill for a proxy customer increases by the rate of inflation relative to the bill on May 1, 2018. The RPP time-of-use prices set by the OEB effective May 1, 2019 are set out below.

Customers that are not on the RPP but that are eligible under the *Ontario Fair Hydro Plan Act, 2017*, see their bills affected through a reduction in their Global Adjustment (GA) charges in each billing period. These customers are those that are eligible for the RPP but have chosen a contract with an energy retailer or market-based pricing, as well as customers that are not eligible for the RPP but are eligible for the 8% rebate under the *Ontario Rebate for Electricity Consumers Act, 2016*. The GA credit is designed to provide these customers with a level of benefit that corresponds with the benefit being provided to the proxy customer through the RPP prices. It is based on the difference between what RPP prices would have been on May 1, 2019 without the *Ontario Fair Hydro Plan Act, 2017*, and the new RPP prices that have been set by the OEB effective May 1, 2019. The GA Modifier has been set by the OEB at – \$41.49 per MWh effective May 1, 2019.

Summer and Winter Time-of-Use Hours

The RPP time-of-use periods are different in the summer than they are in the winter to reflect seasonal variations in how customers use electricity. During the summer, people use more electricity during the hottest part of the day, when air conditioners are running on high. In the winter, with less daylight, electricity use peaks twice: once when people wake up in the morning and turn on their lights and appliances, and again when people get home from work. The time-of-use (TOU) prices applicable in Q2 2019 for RPP consumers with eligible time-of-use meters are shown in the table below.



Source: OEB

RPP Time-of-use prices effective May 1, 2019

Time-of-use RPP Prices – ¢/kWh	Off-Peak	Mid-Peak	On-Peak	Average Price
Price (¢)	6.5	9.4	13.4	8.2

Sample Residential Monthly Bill

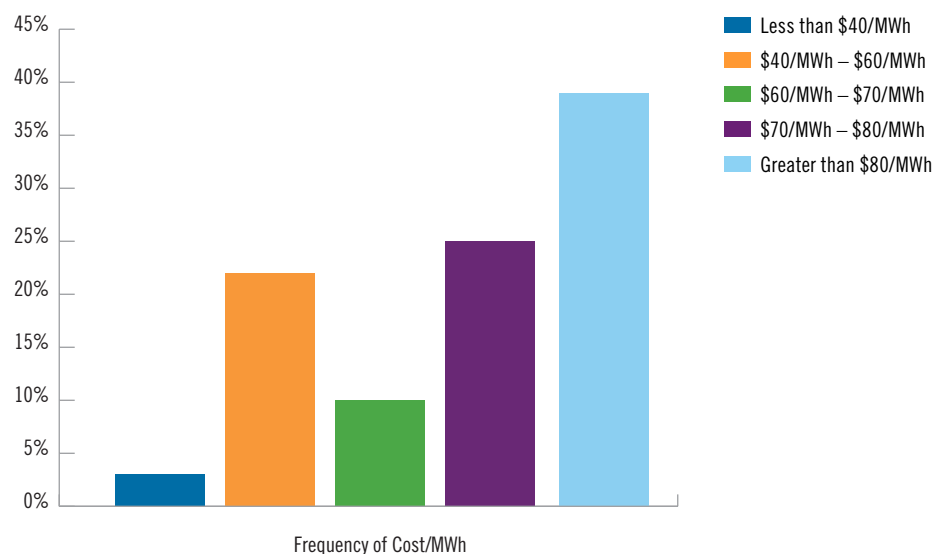
	Monthly Cost (\$)
Electricity	57.65
Delivery	57.32
<i>Distribution</i>	44.26
<i>Transmission</i>	10.89
<i>Line Losses</i>	2.17
Regulatory	3.08
HST	15.35
8% Provincial Rebate	(9.44)
Total Bill:	123.96

This table shows a monthly bill for a Toronto Hydro residential RPP TOU customer with monthly usage of 700 kWh as of April 1, 2019, with 65% of consumption occurring off-peak, 17% occurring mid-peak and 18% occurring on-peak. For consumers in other service territories, delivery charges will vary depending on which utility serves them. For additional information please see the OEB's bill calculator: oeb.ca/consumer-protection/energy-contracts/bill-calculator.

Ontario Industrial Electricity Rates

Industrial electricity consumers can either be directly connected to the high-voltage transmission grid or receive electricity from their local distributor (e.g., Toronto Hydro). Directly-connected consumers do not pay distribution charges, thus lowering their electricity cost. The table below shows the distribution of average all-in prices for all directly-connected consumers in Ontario for 2018. In Ontario, electricity rates for large industrial consumers in Ontario vary by customer as they are determined by individual consumption patterns. Generally speaking, the less energy a large industrial consumer uses during peak hours, the more these consumers reduce their impact on the provincial power system as well as their electricity costs. For most, the commodity cost incorporates both the fluctuating market price and the allocation of the Global Adjustment based on their energy use during peaks.

Transmission-Connected Industrial Rates⁴ (2018)



The table below shows average all-in electricity prices for a distribution-connected industrial consumer in several service territories.⁵

Distribution-Connected Industrial Rates (2019)

\$/MWh	Windsor (EnWin)	Hamilton (Alectra)	Ottawa	Sudbury	Toronto*
HOEP**	8.52	8.53	8.53	8.85	8.55
Class A Global Adjustment	66.88	66.98	66.99	69.47	67.15
Delivery	17.56	17.71	20.67	14.87	22.70
Regulatory	3.92	3.92	3.92	4.07	3.93
All-In Price	96.88	97.14	100.11	97.26	102.33

* The distribution cost estimate for an industrial customer in Toronto reflects the assumption that 1kVA is 1 kW for billing purposes.

Source: IESO and OEB

** HOEP is based on a three-month arithmetic average (April to June 30, 2019). The Global Adjustment shown in the table is an average of all distribution-connected Class A consumers for April to June 2019. Both quantities have been adjusted for losses using the applicable primary metered loss factor for each distributor.

Note: The DRC ended for all electricity users on March 31, 2018.

4. Does not include Northern Industrial Electricity Rate Program.

5. Data in the table is for a hypothetical consumer with a monthly peak demand of 5 megawatts and an 85% load factor, reflecting delivery and regulatory charges in effect in Q4 2017. Load factor is an expression of how much energy was used in a time period, expressed as a percentage of what would have been used if consuming at full potential for the entire period. A 30 day month is assumed.

2019 Indicative Industrial Electricity Prices (Canadian ¢/kWh)

The table below compares indicative retail industrial electricity prices across North American jurisdictions. For reference, Ontario – South reflects the average price for year-to-date 2019. Ontario – North is based on the same figure, along with the 2 cent per kilowatt hour Northern Industrial Electricity Rate Program rebate. See footnote for more details.

Jurisdiction		Cost	Jurisdiction		Cost	Jurisdiction		Cost
1	Quebec	5.79	23	Arizona	8.08	45	Wisconsin	10.17
2	Manitoba	5.87	24	Missouri	8.14	46	Prince Edward Island	10.24
3	Oklahoma	6.09	25	Alabama	8.24	47	Maryland	10.25
4	Washington	6.18	26	Oregon	8.37	48	Minnesota	10.36
5	Ontario North	6.82	27	Ohio	8.38	49	Delaware	10.44
6	Texas	6.83	28	British Columbia	8.51	50	U.S. Average	10.58
7	Nevada	6.92	29	Wyoming	8.58	51	Nova Scotia	11.02
8	Kentucky	6.93	30	Pennsylvania	8.69	52	North Dakota	11.18
9	Georgia	7.19	31	New Brunswick	8.74	53	District of Columbia	11.28
10	Louisiana	7.19	32	Newfoundland	8.82	54	Alberta	12.87
11	New York	7.29	33	Ontario South	8.84	55	Maine	12.98
12	Iowa	7.37	34	Illinois	8.95	56	New Jersey	13.54
13	Utah	7.39	35	Canadian Average	9.03	57	Vermont	13.95
14	Tennessee	7.50	36	Virginia	9.22	58	California	14.68
15	North Carolina	7.54	37	Kansas	9.56	59	New Hampshire	17.37
16	South Carolina	7.54	38	Colorado	9.57	60	Connecticut	18.88
17	Idaho	7.54	39	Michigan	9.60	61	Massachusetts	19.17
18	Arkansas	7.55	40	Saskatchewan	9.62	62	Rhode Island	21.17
19	Montana	7.67	41	Indiana	10.04	63	Alaska	24.45
20	New Mexico	7.70	42	Nebraska	10.06	64	Hawaii	35.52
21	West Virginia	8.04	43	South Dakota	10.15			
22	Mississippi	8.07	44	Florida	10.15			

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 price is based on April 2019 data and includes the Hourly Ontario Energy Price, Class A Global Adjustment, delivery, and wholesale market service charges.

All other Canadian prices are from the Hydro Quebec Rate Comparison for rates effective April 1, 2019 for select local distribution companies servicing specific cities and reflects a 5 MW consumer with an 65% load factor. 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 2018 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 = 1.34 CAD.

Electricity – What's New

A collection of electricity reports and publications.

Information	Published By	Date
 Reliability Outlook	IESO	June 20, 2019
 Quarterly Conservation Report (Q2 2019)	IESO	July 4, 2019
 Progress Report on Contracted Electricity Supply (Q2 2019)	IESO	September 19, 2019
 PowerNews (Summer 2019)	OPG	July 19, 2019
 OPG Quarterly Financial Results (Q2 2019)	OPG	August 15, 2019
 Darlington Refurbishment Performance Update* (Q2 2019)	OPG	August 15, 2019
 Darlington Performance Report (Q2 2019)	OPG	September 17, 2019
 Pickering Performance Report (Q2 2019)	OPG	September 17, 2019
 Hydro One Quarterly Report (Q2 2019)	Hydro One	May 19, 2019
 Regulated Price Plan Prices and the Global Adjustment Modifier for the Period May 1, 2019 to October 31, 2019	OEB	April 17, 2019
 Market Surveillance Panel Report on the IESO-Administered Electricity Markets	OEB	April 29 2019

* The complete Refurb reports are no longer being posted to OPG.com. An update report is being posted instead.