



# 2017

## Comparison of Electricity Prices in Major North American Cities

Rates in effect April 1, 2017



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# INTRODUCTION

Every year, Hydro-Québec compares the monthly electricity bills of Québec customers in the residential, commercial, institutional and industrial sectors with those of customers of the various utilities serving 21 major North American cities.

This report details the principal conclusions of this comparative analysis of prices in effect on April 1, 2017. There are three sections. The first describes the method used to estimate electricity bills. The second examines the highlights of the seven consumption levels analyzed, with the help of charts. Finally, the third section presents the results of the 21 consumption levels for which data were collected and compiled in the form of summary and detailed tables.

The most recent rate adjustments, time-of-use rates, adjustment clauses and applicable taxes, as well as a profile of the utilities in the study, appear in separate appendices.

# MAJOR NORTH AMERICAN CITIES

AVERAGE PRICES FOR RESIDENTIAL CUSTOMERS<sup>1</sup>  
(IN ¢/kWh)<sup>2</sup>



## Abbreviations Used

AB	Alberta
BC	British Columbia
CA	California
FL	Florida
IL	Illinois
MA	Massachusetts
MB	Manitoba
MI	Michigan
NB	New Brunswick
NL	Newfoundland and Labrador
NS	Nova Scotia
NY	New York
ON	Ontario
OR	Oregon
PE	Prince Edward Island
QC	Québec
SK	Saskatchewan
TN	Tennessee
TX	Texas
WA	Washington

1) For a monthly consumption of 1,000 kWh; rates in effect April 1, 2017.  
2) In Canadian currency.

# MAJOR NORTH AMERICAN CITIES

AVERAGE PRICES FOR LARGE-POWER CUSTOMERS<sup>1</sup>  
(IN ¢/kWh)<sup>2</sup>



### Abbreviations Used

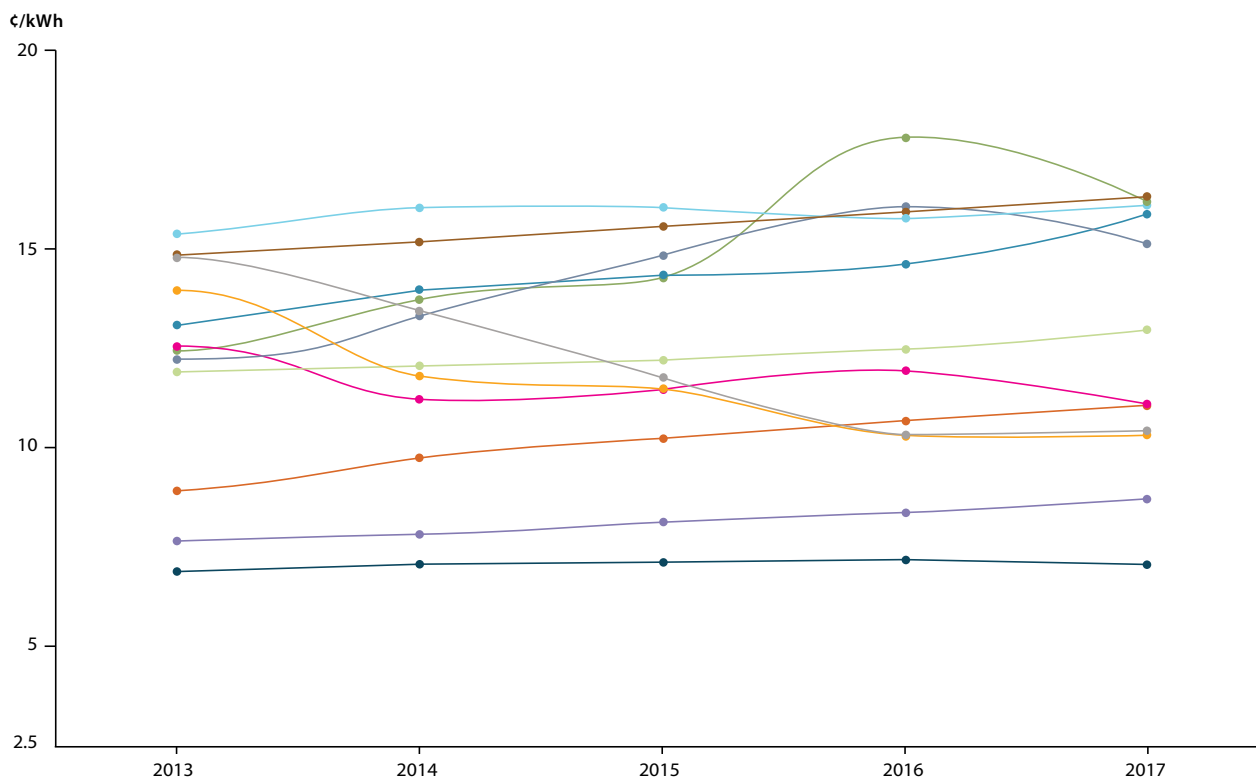
AB	Alberta
BC	British Columbia
CA	California
FL	Florida
IL	Illinois
MA	Massachusetts
MB	Manitoba
MI	Michigan
NB	New Brunswick
NL	Newfoundland and Labrador
NS	Nova Scotia
NY	New York
ON	Ontario
OR	Oregon
PE	Prince Edward Island
QC	Québec
SK	Saskatchewan
TN	Tennessee
TX	Texas
WA	Washington

1) For a monthly consumption of 3,060,000 kWh and a power demand of 5,000 kW; rates in effect April 1, 2017.

2) In Canadian currency.

# MAJOR CANADIAN CITIES

## OVERVIEW OF CHANGES IN AVERAGE PRICES FOR RESIDENTIAL CUSTOMERS (IN ¢/kWh) – 2013 TO 2017<sup>1,2,3</sup>



## AVERAGE PRICES FOR A RESIDENTIAL CUSTOMER (IN ¢/kWh)<sup>1,2,3</sup>

	2013	2014	2015	2016	2017
<b>Canadian cities</b>					
● Montréal, QC	6.87	7.06	7.19	7.23	7.07
● Calgary, AB	14.81	13.41	11.66	10.40	10.45
● Charlottetown, PE	14.87	15.24	15.62	16.02	16.42
● Edmonton, AB	13.90	11.88	11.55	10.37	10.34
● Halifax, NS	15.45	16.03	16.03	15.88	16.15
● Moncton, NB	11.82	12.06	12.30	12.50	12.97
● Ottawa, ON	12.39	13.45	14.86	16.15	15.21
● Regina, SK	13.15	13.95	14.37	14.65	15.94
● St. John's, NL	12.55	11.34	11.55	11.96	11.15
● Toronto, ON	12.48	13.78	14.31	17.81	16.32
● Vancouver, BC	8.91	9.71	10.29	10.70	11.08
● Winnipeg, MB	7.63	7.89	8.11	8.43	8.71

1) For a monthly consumption of 1,000 kWh.

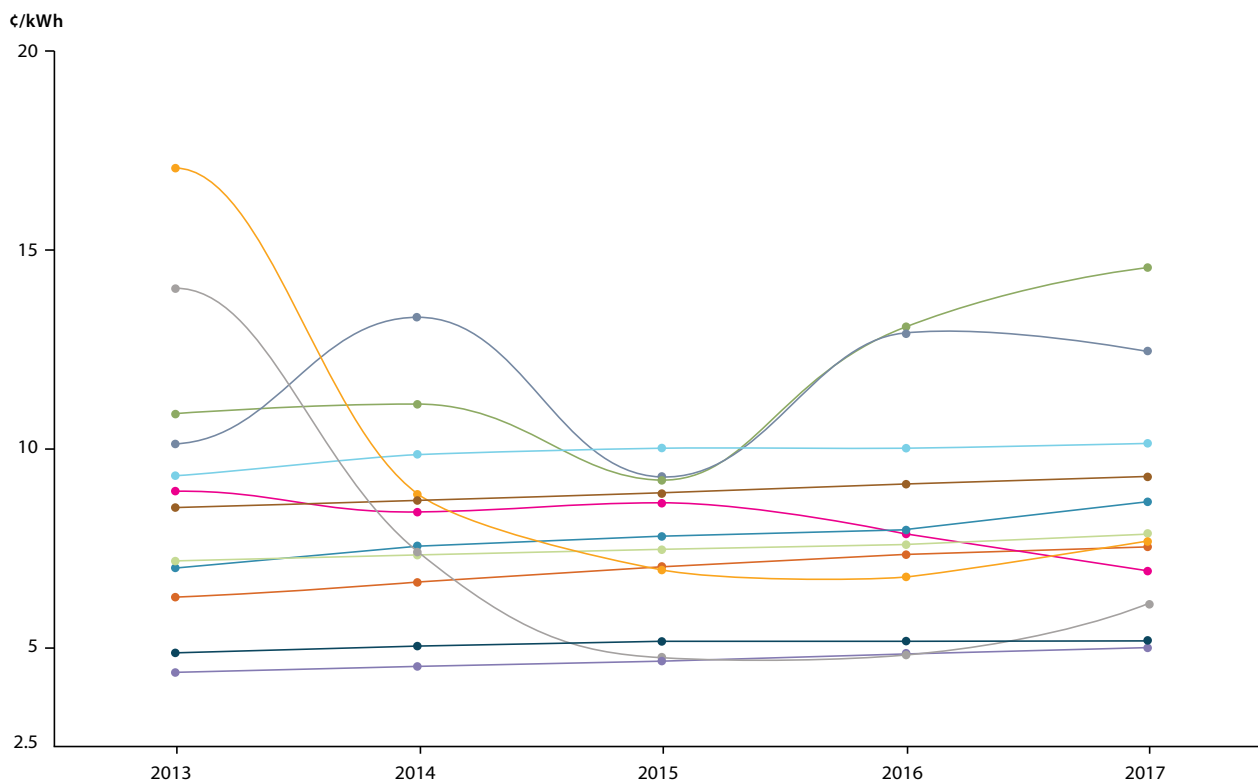
2) In Canadian currency.

3) Data from *Comparison of Electricity Prices in Major North American Cities* publications, Hydro-Québec, 2013 to 2017.



# MAJOR CANADIAN CITIES

## OVERVIEW OF CHANGES IN AVERAGE PRICES FOR LARGE-POWER CUSTOMERS (IN ¢/kWh) – 2013 TO 2017<sup>1,2,3</sup>



## AVERAGE PRICES FOR LARGE-POWER CUSTOMERS (IN ¢/kWh)<sup>1,2,3</sup>

	2013	2014	2015	2016	2017
<b>Canadian cities</b>					
● Montréal, QC	4.88	5.05	5.17	5.17	5.18
● Calgary, AB	14.04	7.42	4.76	4.82	6.09
● Charlottetown, PE	8.53	8.71	8.90	9.12	9.31
● Edmonton, AB	17.06	8.87	6.97	6.78	7.68
● Halifax, NS	9.33	9.86	10.02	10.02	10.14
● Moncton, NB	7.19	7.34	7.48	7.60	7.86
● Ottawa, ON	10.13	13.31	9.30	12.91	12.46
● Regina, SK	7.01	7.56	7.81	7.97	8.67
● St. John's, NL	8.94	8.42	8.65	7.88	6.95
● Toronto, ON	10.89	11.13	9.22	13.04	14.55
● Vancouver, BC	6.28	6.66	7.04	7.35	7.54
● Winnipeg, MB	4.39	4.54	4.67	4.85	5.01

1) For a monthly consumption of 3,060,000 kWh and power demand of 5,000 kW.

2) In Canadian currency.

3) Data from *Comparison of Electricity Prices in Major North American Cities* publications, Hydro-Québec, 2013 to 2017.



## METHOD

In addition to Hydro-Québec, this comparative analysis of electricity prices across North America includes 22 utilities: 12 serving the principal cities in the 9 other Canadian provinces, and 10 utilities in American states. The results are based, in part, on a survey to which 13 utilities responded, and in part on estimates of bills calculated by Hydro-Québec and confirmed in most cases by the utilities concerned.

The results presented here show the total bill for various consumption levels. If the bill is calculated according to an unbundled rate, it includes all components, including supply, transmission and distribution.

### PERIOD COVERED

Monthly bills have been calculated based on rates in effect on April 1, 2017. The most recent rate adjustments applied by the utilities in the study between April 1, 2016, and April 1, 2017, are shown in Appendix A.

### CONSUMPTION LEVELS

Seven consumption levels were selected for analysis. However, data were collected for 21 consumption levels and those results are presented in the Detailed Tables.

### TAXES

With the exception of the bills presented in Section 2, taxes are not included in any of the calculations. Appendix C lists taxes applicable on April 1, 2017, by customer category; those which may be partially or fully refundable are also indicated.

### OPTIONAL PROGRAMS

The bills have been calculated according to base rates. Optional rates or programs offered by some utilities to their residential, commercial, institutional or industrial customers have not been taken into account since the terms and conditions vary considerably from one utility to the next.

### GEOGRAPHIC LOCATION

Electricity distributors sometimes offer different rates in the various cities they serve. As well, taxes may vary from one region to another. This, however, is not the case in Québec, where, with the exception of territories north of the 53<sup>rd</sup> parallel, taxes and rates are applied uniformly. For the purposes of this study, the bill calculations estimate as closely as possible the actual electricity bills of consumers in each target city, based on rates in effect on April 1, 2017.

### TIME-OF-USE RATES

The rates offered by some utilities vary depending on the season and/or time of day when energy is consumed. In the United States, for example, a number of utilities set a higher price in summer, when demand for air-conditioning is stronger. In Québec, on the other hand, demand increases in winter because of heating requirements. Thus, for some utilities, April 1 may fall within a period in the year when the price is high, whereas for others it falls in a period when the price is low. An annual average price has therefore been calculated in the case of utilities with time-of-use rates which are listed in Appendix B.

### ADJUSTMENT CLAUSES

The rates of some distributors include adjustment clauses that allow them to adjust their customers' electricity bills according to changes in different variables. Since these adjustments may be applied monthly, or over a longer period, the electricity bills issued by a given distributor may have varied between April 1, 2016, and April 1, 2017, even though base rates remained the same. Appendix B lists the adjustment clauses taken into account when calculating bills.

### EXCHANGE RATE

The exchange rate used to convert bills in U.S. dollars into Canadian dollars is 0.7468 (CA\$1 = US\$0.7468), the rate in effect at noon on April 3, 2017. The Canadian dollar had thus depreciated by 2.57% relative to the U.S. dollar on April 1, 2016.



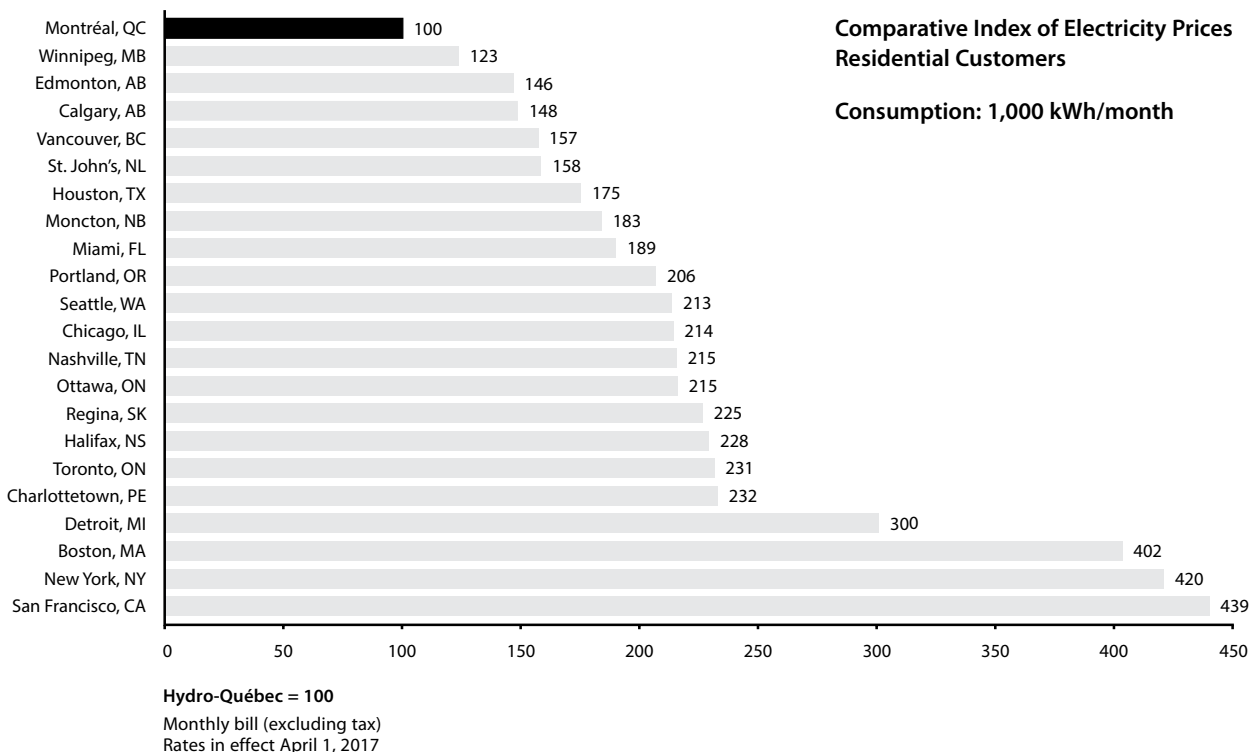
# HIGHLIGHTS

The *Electricity Rates* effective April 1, 2017 sets out Hydro-Québec’s rates, as approved by the Régie de l’énergie (the Québec energy board) in accordance with Decision D-2017-034. Three types of rates are in effect: domestic rates, for residential customers, the industrial rate, for large-power industrial customers, and general rates, for other customers. General rates are applied according to minimum billing demand: small power, medium power and large power. For comparison purposes, the electricity bills of the utilities in the study have been analyzed according to these customer categories. The industrial rate has been used to calculate the bills of large-power customers.

## RESIDENTIAL CUSTOMERS

The rate applicable to Hydro-Québec’s residential customers is among the most advantageous in North America. For customers whose monthly consumption is 1,000 kWh, Montréal is once again in *first* place. Figure 1 illustrates the results of this comparison.

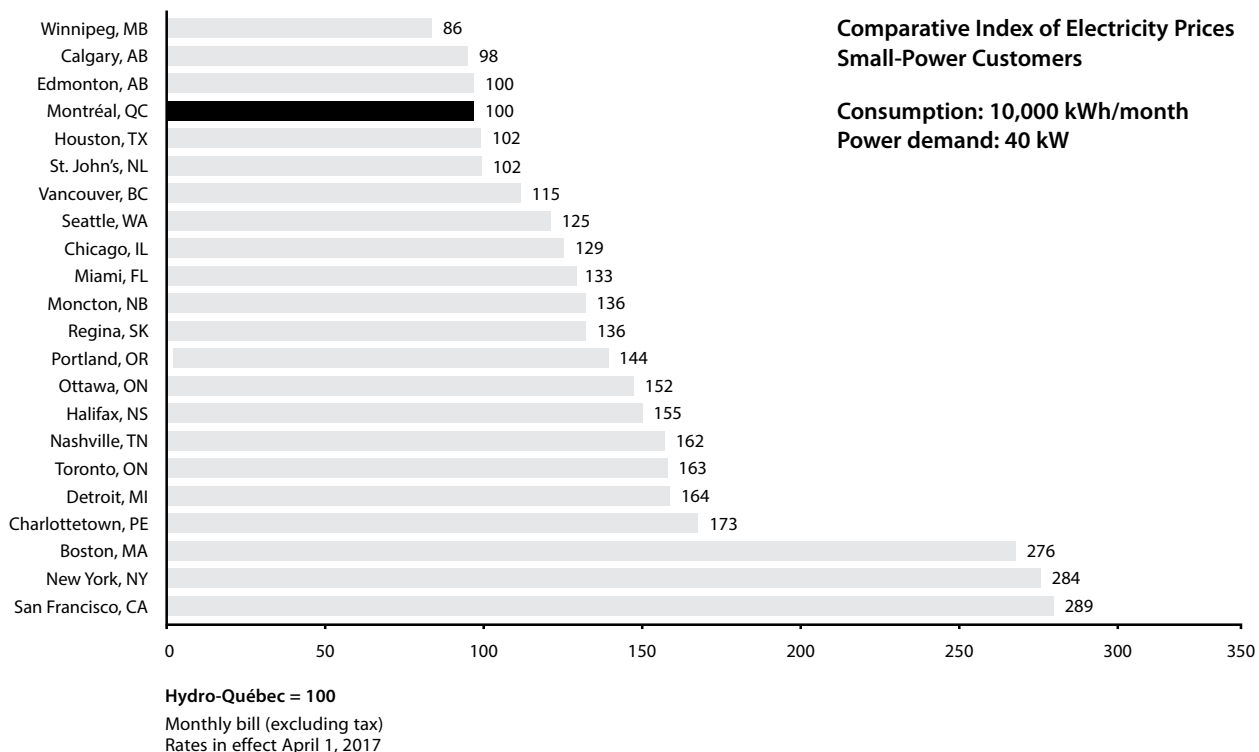
**FIGURE 1**



## SMALL-POWER CUSTOMERS (LESS THAN 100 kW)

The comparison of bills for small-power customers is based on a monthly consumption of 10,000 kWh and a power demand of 40 kW. Montréal is in *fourth* place coming in just behind Edmonton. Figure 2 shows the comparative index of electricity prices.

FIGURE 2

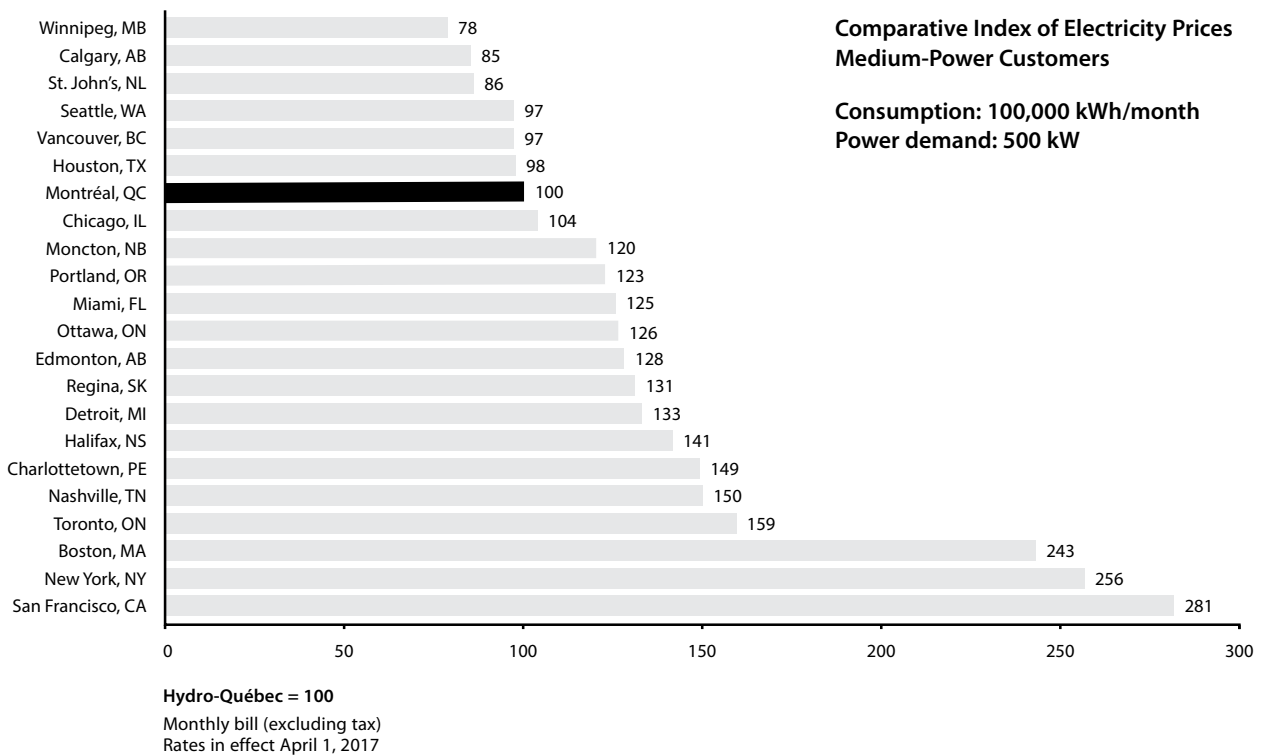


## MEDIUM-POWER CUSTOMERS (100 TO 5,000 kW)

Three consumption levels were analyzed for medium-power customers. In all three cases, the bills of Hydro-Québec's customers have remained below the average of the other major North American cities. Figures 3, 4 and 5 show the comparative index of electricity prices for these consumption profiles.

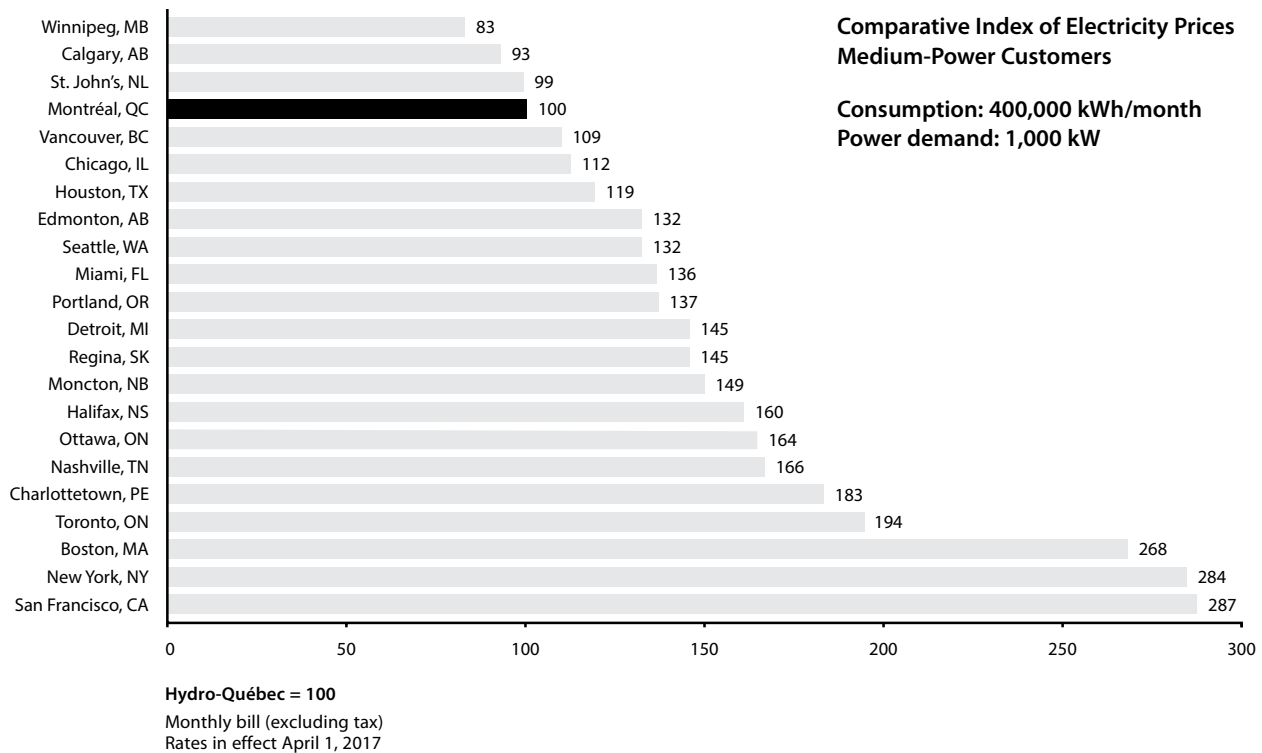
For medium-power customers with a monthly consumption of 100,000 kWh and a power demand of 500 kW, Montréal remains in *seventh* place.

**FIGURE 3**



For customers with a monthly consumption of 400,000 kWh and a power demand of 1,000 kW, Montréal is in *fourth* place, compared with third place last year.

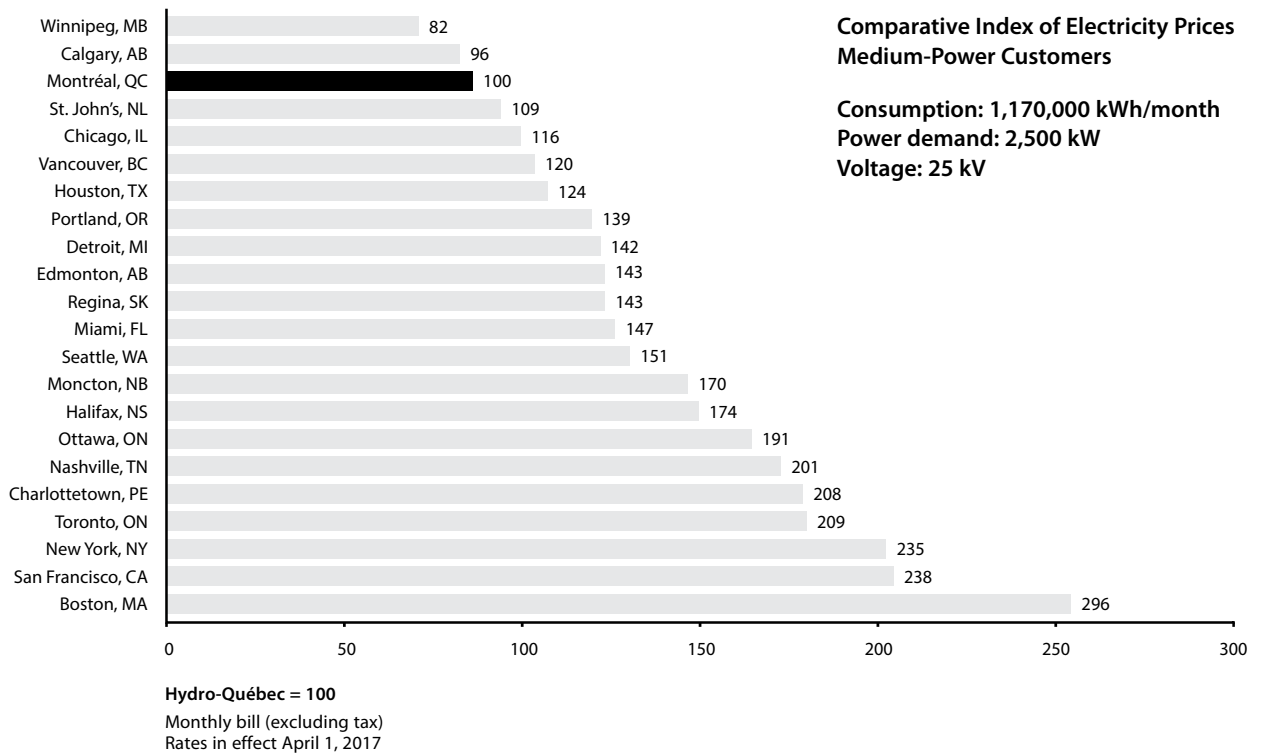
**FIGURE 4**





In the case of customers with a monthly consumption of 1,170,000 kWh and a power demand of 2,500 kW, Montréal holds *third* place.

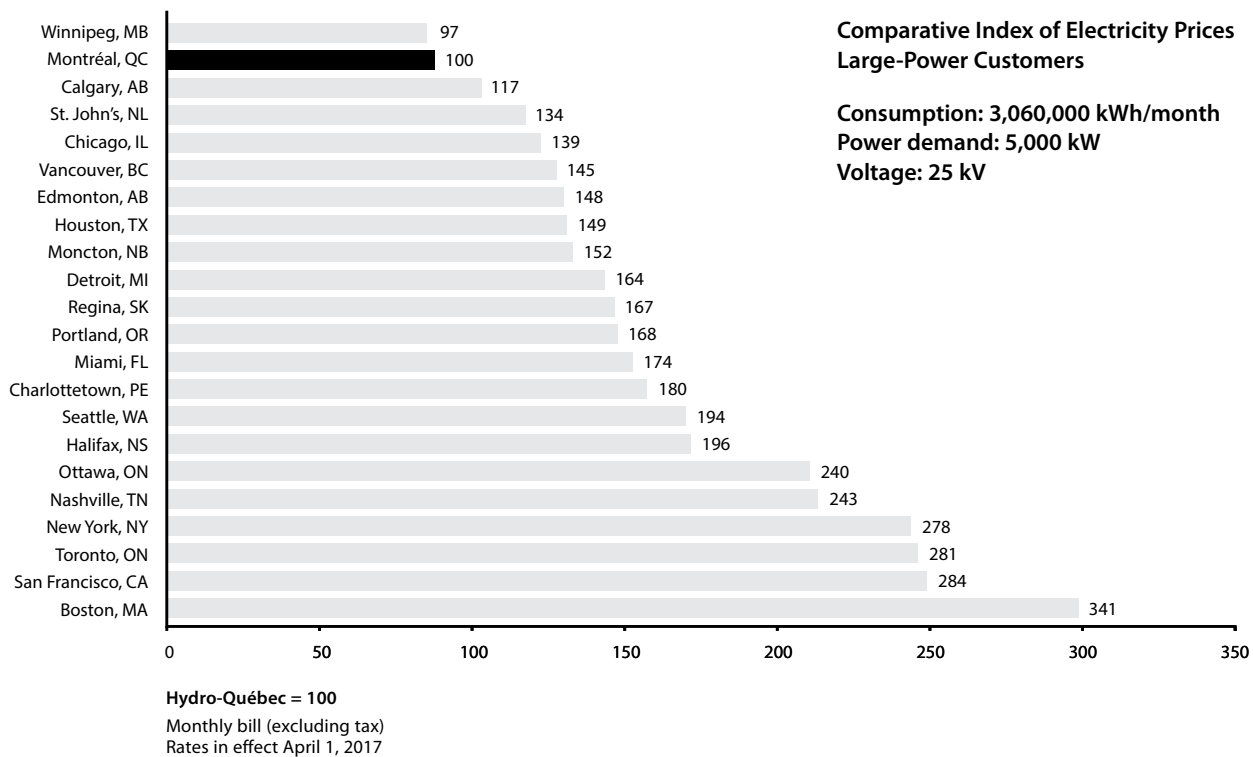
**FIGURE 5**



## LARGE-POWER CUSTOMERS (5,000 kW OR MORE)

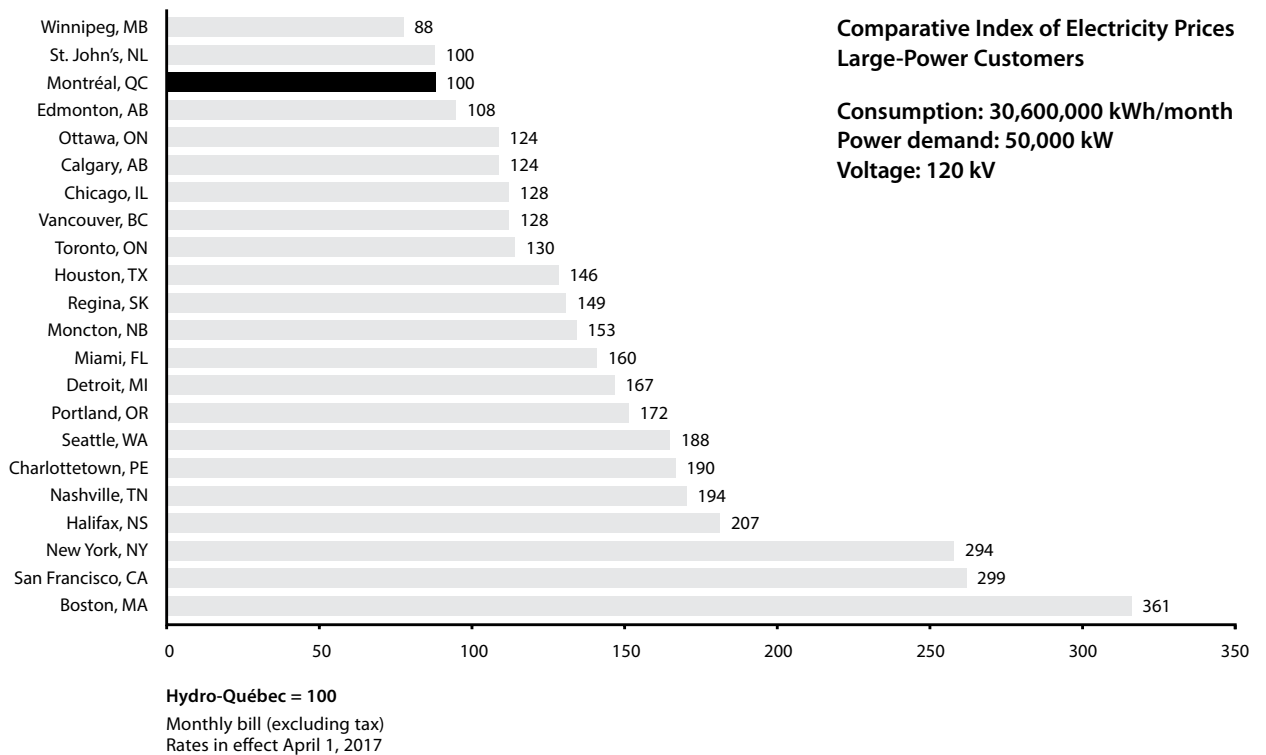
Figure 6 illustrates the comparative index of electricity prices for large-power customers with a monthly consumption of 3,060,000 kWh and a power demand of 5,000 kW. This year, Montréal has climbed the rankings to *second* place, over third place last year.

**FIGURE 6**



For industrial customers with a power demand of 50,000 kW and a load factor of 85%, Montréal has made significant headway, moving from sixth to *third* place.

**FIGURE 7**





# 01

## Detailed Results **Summary Tables** **(excluding taxes)**

Monthly Bills

Average Prices

Comparative Index



## MONTHLY BILLS ON APRIL 1, 2017

(in CA\$)

### Summary Table (excluding taxes)

	Residential	Small Power	Medium Power			Large Power	
Power demand		40 kW	500 kW	1,000 kW	2,500 kW <sup>1</sup>	5,000 kW <sup>1</sup>	50,000 kW <sup>2</sup>
Consumption	1,000 kWh	10,000 kWh	100,000 kWh	400,000 kWh	1,170,000 kWh	3,060,000 kWh	30,600,000 kWh
Load factor		35%	28%	56%	65%	85%	85%
<b>Canadian Cities</b>							
Montréal, QC	70.70	990.33	12,070.00	31,878.00	79,039.50	158,619.00	1,501,290.00
Calgary, AB	104.53	968.62	10,256.24	29,522.74	75,714.87	186,278.39	1,855,748.69
Charlottetown, PE <sup>3</sup>	164.17	1,711.17	17,959.97	58,244.97	164,552.97	284,864.00	2,848,640.00
Edmonton, AB <sup>4</sup>	103.40	988.14	15,391.90	42,033.09	113,206.98	234,924.09	1,617,047.62
Halifax, NS	161.46	1,532.70	17,032.50	51,075.00	137,388.45	310,347.09	3,103,494.84
Moncton, NB	129.70	1,348.70	14,498.70	47,533.70	134,587.70	240,543.40	2,294,700.00
Ottawa, ON	152.13	1,503.31	15,229.17	52,308.41	151,226.51	381,151.52	1,854,238.03
Regina, SK	159.41	1,350.07	15,787.48	46,381.55	113,215.14	265,355.66	2,233,810.73
St. John's, NL <sup>5</sup>	111.52	1,014.23	10,355.84	31,565.26	86,123.23	212,566.50	1,498,150.00
Toronto, ON <sup>3</sup>	163.18	1,609.67	19,192.41	61,871.17	165,400.55	445,324.24	1,946,356.79
Vancouver, BC	110.79	1,138.40	11,660.25	34,878.26	94,890.23	230,721.49	1,924,954.57
Winnipeg, MB	87.12	854.10	9,454.71	26,325.06	65,020.92	153,453.67	1,321,932.24
<b>American Cities</b>							
Boston, MA	284.50	2,736.12	29,283.08	85,284.37	233,920.20	541,573.36	5,412,876.90
Chicago, IL <sup>3</sup>	150.97	1,277.96	12,506.66	35,768.17	91,452.92	220,949.15	1,915,683.32
Detroit, MI <sup>3</sup>	212.20	1,619.69	16,019.32	46,260.28	112,121.15	259,696.04	2,507,789.57
Houston, TX <sup>3</sup>	123.39	1,012.60	11,776.02	37,900.14	98,233.42	236,393.91	2,191,986.53
Miami, FL <sup>3</sup>	133.86	1,320.82	15,114.84	43,341.53	115,897.06	276,242.12	2,407,245.80
Nashville, TN	151.88	1,604.69	18,053.42	52,992.91	158,845.20	385,869.66	2,910,445.48
New York, NY <sup>3</sup>	296.71	2,814.94	30,902.96	90,457.95	186,106.15	441,541.51	4,413,795.01
Portland, OR <sup>3</sup>	145.67	1,421.48	14,802.20	43,567.62	109,929.76	267,083.12	2,588,811.27
San Francisco, CA <sup>3</sup>	310.48	2,857.43	33,924.44	91,482.02	187,867.55	450,911.88	4,485,365.02
Seattle, WA	150.53	1,237.14	11,726.09	42,108.12	119,608.49	307,323.39	2,821,027.64
<b>AVERAGE</b>	<b>158.10</b>	<b>1,496.01</b>	<b>16,499.92</b>	<b>49,217.29</b>	<b>127,015.86</b>	<b>295,078.78</b>	<b>2,529,790.46</b>

1) Supply voltage of 25 kV, customer-owned transformer.

2) Supply voltage of 120 kV, customer-owned transformer.

3) These bills have been estimated by Hydro-Québec and may differ from actual bills.

4) Bills corresponding to consumption levels of 500 kW or more have been estimated by Hydro-Québec based on the applicable general rate.

5) Newfoundland and Labrador Hydro rates for customers with a power demand of 30,000 kW or more; Newfoundland Power rates for all other customer categories.

**AVERAGE PRICES ON APRIL 1, 2017**  
(in ¢/kWh)<sup>1</sup>

Summary Table (excluding taxes)

	Residential	Small Power	Medium Power			Large Power	
Power demand		40 kW	500 kW	1,000 kW	2,500 kW <sup>2</sup>	5,000 kW <sup>2</sup>	50,000 kW <sup>3</sup>
Consumption	1,000 kWh	10,000 kWh	100,000 kWh	400,000 kWh	1,170,000 kWh	3,060,000 kWh	30,600,000 kWh
Load factor		35%	28%	56%	65%	85%	85%
<b>Canadian Cities</b>							
Montréal, QC	7.07	9.90	12.07	7.97	6.76	5.18	4.91
Calgary, AB	10.45	9.69	10.26	7.38	6.47	6.09	6.06
Charlottetown, PE <sup>4</sup>	16.42	17.11	17.96	14.56	14.06	9.31	9.31
Edmonton, AB <sup>5</sup>	10.34	9.88	15.39	10.51	9.68	7.68	5.28
Halifax, NS	16.15	15.33	17.03	12.77	11.74	10.14	10.14
Moncton, NB	12.97	13.49	14.50	11.88	11.50	7.86	7.50
Ottawa, ON	15.21	15.03	15.23	13.08	12.93	12.46	6.06
Regina, SK	15.94	13.50	15.79	11.60	9.68	8.67	7.30
St. John's, NL <sup>6</sup>	11.15	10.14	10.36	7.89	7.36	6.95	4.90
Toronto, ON <sup>4</sup>	16.32	16.10	19.19	15.47	14.14	14.55	6.36
Vancouver, BC	11.08	11.38	11.66	8.72	8.11	7.54	6.29
Winnipeg, MB	8.71	8.54	9.45	6.58	5.56	5.01	4.32
<b>American Cities</b>							
Boston, MA	28.45	27.36	29.28	21.32	19.99	17.70	17.69
Chicago, IL <sup>4</sup>	15.10	12.78	12.51	8.94	7.82	7.22	6.26
Detroit, MI <sup>4</sup>	21.22	16.20	16.02	11.57	9.58	8.49	8.20
Houston, TX <sup>4</sup>	12.34	10.13	11.78	9.48	8.40	7.73	7.16
Miami, FL <sup>4</sup>	13.39	13.21	15.11	10.84	9.91	9.03	7.87
Nashville, TN	15.19	16.05	18.05	13.25	13.58	12.61	9.51
New York, NY <sup>4</sup>	29.67	28.15	30.90	22.61	15.91	14.43	14.42
Portland, OR <sup>4</sup>	14.57	14.21	14.80	10.89	9.40	8.73	8.46
San Francisco, CA <sup>4</sup>	31.05	28.57	33.92	22.87	16.06	14.74	14.66
Seattle, WA	15.05	12.37	11.73	10.53	10.22	10.04	9.22
<b>AVERAGE</b>	<b>15.81</b>	<b>14.96</b>	<b>16.50</b>	<b>12.30</b>	<b>10.86</b>	<b>9.64</b>	<b>8.27</b>

1) In Canadian currency.

2) Supply voltage of 25 kV, customer-owned transformer.

3) Supply voltage of 120 kV, customer-owned transformer.

4) These bills have been estimated by Hydro-Québec and may differ from actual bills.

5) Bills corresponding to consumption levels of 500 kW or more have been estimated by Hydro-Québec based on the applicable general rate.

6) Newfoundland and Labrador Hydro rates for customers with a power demand of 30,000 kW or more; Newfoundland Power rates for all other customer categories.



## COMPARATIVE INDEX ON APRIL 1, 2017

(Hydro-Québec = 100)

### Summary Table (excluding taxes)

	Residential	Small Power	Medium Power			Large Power	
Power demand		40 kW	500 kW	1,000 kW	2,500 kW <sup>1</sup>	5,000 kW <sup>1</sup>	50,000 kW <sup>2</sup>
Consumption	1,000 kWh	10,000 kWh	100,000 kWh	400,000 kWh	1,170,000 kWh	3,060,000 kWh	30,600,000 kWh
Load factor		35%	28%	56%	65%	85%	85%
<b>Canadian Cities</b>							
Montréal, QC	100	100	100	100	100	100	100
Calgary, AB	148	98	85	93	96	117	124
Charlottetown, PE <sup>3</sup>	232	173	149	183	208	180	190
Edmonton, AB <sup>4</sup>	146	100	128	132	143	148	108
Halifax, NS	228	155	141	160	174	196	207
Moncton, NB	183	136	120	149	170	152	153
Ottawa, ON	215	152	126	164	191	240	124
Regina, SK	225	136	131	145	143	167	149
St. John's, NL <sup>5</sup>	158	102	86	99	109	134	100
Toronto, ON <sup>3</sup>	231	163	159	194	209	281	130
Vancouver, BC	157	115	97	109	120	145	128
Winnipeg, MB	123	86	78	83	82	97	88
<b>American Cities</b>							
Boston, MA	402	276	243	268	296	341	361
Chicago, IL <sup>3</sup>	214	129	104	112	116	139	128
Detroit, MI <sup>3</sup>	300	164	133	145	142	164	167
Houston, TX <sup>3</sup>	175	102	98	119	124	149	146
Miami, FL <sup>3</sup>	189	133	125	136	147	174	160
Nashville, TN	215	162	150	166	201	243	194
New York, NY <sup>3</sup>	420	284	256	284	235	278	294
Portland, OR <sup>3</sup>	206	144	123	137	139	168	172
San Francisco, CA <sup>3</sup>	439	289	281	287	238	284	299
Seattle, WA	213	125	97	132	151	194	188
<b>AVERAGE</b>	<b>224</b>	<b>151</b>	<b>137</b>	<b>154</b>	<b>161</b>	<b>186</b>	<b>169</b>

1) Supply voltage of 25 kV, customer-owned transformer.

2) Supply voltage of 120 kV, customer-owned transformer.

3) These bills have been estimated by Hydro-Québec and may differ from actual bills.

4) Bills corresponding to consumption levels of 500 kW or more have been estimated by Hydro-Québec based on the applicable general rate.

5) Newfoundland and Labrador Hydro rates for customers with a power demand of 30,000 kW or more; Newfoundland Power rates for all other customer categories.



# 02

Detailed Results

**Summary Tables  
(including taxes)**

Monthly Bills

Average Prices

Comparative Index



**MONTHLY BILLS ON APRIL 1, 2017**  
(in CA\$)

**Summary Table (including taxes)**

	Residential	Small Power	Medium Power			Large Power	
Power demand		40 kW	500 kW	1,000 kW	2,500 kW <sup>1</sup>	5,000 kW <sup>1</sup>	50,000 kW <sup>2</sup>
Consumption	1,000 kWh	10,000 kWh	100,000 kWh	400,000 kWh	1,170,000 kWh	3,060,000 kWh	30,600,000 kWh
Load factor		35%	28%	56%	65%	85%	85%
<b>Canadian Cities</b>							
Montréal, QC	81.29	1,138.64	13,877.48	36,651.73	90,875.67	182,372.20	1,726,108.18
Calgary, AB	109.76	1,017.05	10,769.05	30,998.88	79,500.61	195,592.31	1,948,536.13
Charlottetown, PE <sup>3</sup>	188.80	1,967.85	20,653.97	66,981.72	189,235.92	327,593.60	3,275,936.00
Edmonton, AB <sup>4</sup>	108.57	1,037.55	16,161.50	44,134.74	118,867.33	246,670.29	1,697,900.00
Halifax, NS	169.53	1,762.61	19,587.38	58,736.25	157,996.72	356,899.15	3,569,019.07
Moncton, NB	149.16	1,551.01	16,673.51	54,663.76	154,775.86	276,624.91	2,638,905.00
Ottawa, ON	173.62	1,715.73	17,208.96	59,108.50	170,885.95	430,701.22	2,095,288.98
Regina, SK	183.32	1,641.69	19,197.57	56,399.97	137,669.61	322,672.48	2,716,313.85
St. John's, NL <sup>5</sup>	128.25	1,166.36	11,909.22	36,300.05	99,041.71	244,451.48	1,722,872.50
Toronto, ON <sup>3</sup>	186.24	1,837.12	21,687.43	69,914.42	186,902.62	503,216.39	2,199,383.18
Vancouver, BC	118.33	1,275.01	13,059.48	39,063.65	106,277.06	258,408.07	2,155,949.12
Winnipeg, MB	100.74	1,009.98	11,180.20	31,129.38	72,725.90	171,637.93	1,478,581.21
<b>American Cities</b>							
Boston, MA	284.50	2,899.99	31,041.90	90,329.12	247,705.07	573,237.46	5,729,339.39
Chicago, IL <sup>3</sup>	170.89	1,433.60	13,899.97	41,029.56	106,272.72	258,015.85	2,244,595.67
Detroit, MI <sup>3</sup>	231.30	1,797.86	17,781.45	51,348.91	124,454.48	288,262.61	2,783,646.42
Houston, TX <sup>3</sup>	124.62	1,095.50	12,657.45	40,612.24	106,375.87	256,174.69	2,375,117.03
Miami, FL <sup>3</sup>	157.68	1,665.15	19,096.69	54,436.09	145,309.91	345,580.95	2,983,528.89
Nashville, TN	151.88	1,717.02	19,317.16	56,702.41	169,964.36	412,880.54	3,114,176.66
New York, NY <sup>3</sup>	322.70	3,140.47	34,477.15	100,913.01	207,609.29	492,548.91	4,923,680.94
Portland, OR <sup>3</sup>	147.97	1,444.24	15,040.54	44,263.94	111,732.02	271,471.82	2,631,421.82
San Francisco, CA <sup>3</sup>	310.86	3,104.20	36,846.84	99,413.30	204,290.58	490,427.53	4,878,502.44
Seattle, WA	150.53	1,237.14	11,726.09	42,108.12	119,608.49	307,323.39	2,821,027.64
<b>AVERAGE</b>	<b>170.48</b>	<b>1,666.17</b>	<b>18,356.86</b>	<b>54,783.62</b>	<b>141,276.26</b>	<b>327,852.90</b>	<b>2,804,992.28</b>

1) Supply voltage of 25 kV, customer-owned transformer.

2) Supply voltage of 120 kV, customer-owned transformer.

3) These bills have been estimated by Hydro-Québec and may differ from actual bills.

4) Bills corresponding to consumption levels of 500 kW or more have been estimated by Hydro-Québec based on the applicable general rate.

5) Newfoundland and Labrador Hydro rates for customers with a power demand of 30,000 kW or more; Newfoundland Power rates for all other customer categories.

## AVERAGE PRICES ON APRIL 1, 2017

(in ¢/kWh)<sup>1</sup>

### Summary Table (including taxes)

	Residential	Small Power	Medium Power			Large Power	
Power demand		40 kW	500 kW	1,000 kW	2,500 kW <sup>2</sup>	5,000 kW <sup>2</sup>	50,000 kW <sup>3</sup>
Consumption	1,000 kWh	10,000 kWh	100,000 kWh	400,000 kWh	1,170,000 kWh	3,060,000 kWh	30,600,000 kWh
Load factor		35%	28%	56%	65%	85%	85%
<b>Canadian Cities</b>							
Montréal, QC	8.13	11.39	13.88	9.16	7.77	5.96	5.64
Calgary, AB	10.98	10.17	10.77	7.75	6.79	6.39	6.37
Charlottetown, PE <sup>4</sup>	18.88	19.68	20.65	16.75	16.17	10.71	10.71
Edmonton, AB <sup>5</sup>	10.86	10.38	16.16	11.03	10.16	8.06	5.55
Halifax, NS	16.95	17.63	19.59	14.68	13.50	11.66	11.66
Moncton, NB	14.92	15.51	16.67	13.67	13.23	9.04	8.62
Ottawa, ON	17.36	17.16	17.21	14.78	14.61	14.08	6.85
Regina, SK	18.33	16.42	19.20	14.10	11.77	10.54	8.88
St. John's, NL <sup>6</sup>	12.83	11.66	11.91	9.08	8.47	7.99	5.63
Toronto, ON <sup>4</sup>	18.62	18.37	21.69	17.48	15.97	16.44	7.19
Vancouver, BC	11.83	12.75	13.06	9.77	9.08	8.44	7.05
Winnipeg, MB	10.07	10.10	11.18	7.78	6.22	5.61	4.83
<b>American Cities</b>							
Boston, MA	28.45	29.00	31.04	22.58	21.17	18.73	18.72
Chicago, IL <sup>4</sup>	17.09	14.34	13.90	10.26	9.08	8.43	7.34
Detroit, MI <sup>4</sup>	23.13	17.98	17.78	12.84	10.64	9.42	9.10
Houston, TX <sup>4</sup>	12.46	10.96	12.66	10.15	9.09	8.37	7.76
Miami, FL <sup>4</sup>	15.77	16.65	19.10	13.61	12.42	11.29	9.75
Nashville, TN	15.19	17.17	19.32	14.18	14.53	13.49	10.18
New York, NY <sup>4</sup>	32.27	31.40	34.48	25.23	17.74	16.10	16.09
Portland, OR <sup>4</sup>	14.80	14.44	15.04	11.07	9.55	8.87	8.60
San Francisco, CA <sup>4</sup>	31.09	31.04	36.85	24.85	17.46	16.03	15.94
Seattle, WA	15.05	12.37	11.73	10.53	10.22	10.04	9.22
<b>AVERAGE</b>	<b>17.05</b>	<b>16.66</b>	<b>18.36</b>	<b>13.70</b>	<b>12.07</b>	<b>10.71</b>	<b>9.17</b>

1) In Canadian currency.

2) Supply voltage of 25 kV, customer-owned transformer.

3) Supply voltage of 120 kV, customer-owned transformer.

4) These bills have been estimated by Hydro-Québec and may differ from actual bills.

5) Bills corresponding to consumption levels of 500 kW or more have been estimated by Hydro-Québec based on the applicable general rate.

6) Newfoundland and Labrador Hydro rates for customers with a power demand of 30,000 kW or more; Newfoundland Power rates for all other customer categories.

## COMPARATIVE INDEX ON APRIL 1, 2017

(Hydro-Québec = 100)

### Summary Table (including taxes)

	Residential	Small Power	Medium Power			Large Power	
Power demand		40 kW	500 kW	1,000 kW	2,500 kW <sup>1</sup>	5,000 kW <sup>1</sup>	50,000 kW <sup>2</sup>
Consumption	1,000 kWh	10,000 kWh	100,000 kWh	400,000 kWh	1,170,000 kWh	3,060,000 kWh	30,600,000 kWh
Load factor		35%	28%	56%	65%	85%	85%
<b>Canadian Cities</b>							
Montréal, QC	100	100	100	100	100	100	100
Calgary, AB	135	89	78	85	87	107	113
Charlottetown, PE <sup>3</sup>	232	173	149	183	208	180	190
Edmonton, AB <sup>4</sup>	134	91	116	120	131	135	98
Halifax, NS	209	155	141	160	174	196	207
Moncton, NB	183	136	120	149	170	152	153
Ottawa, ON	214	151	124	161	188	236	121
Regina, SK	226	144	138	154	151	177	157
St. John's, NL <sup>5</sup>	158	102	86	99	109	134	100
Toronto, ON <sup>3</sup>	229	161	156	191	206	276	127
Vancouver, BC	146	112	94	107	117	142	125
Winnipeg, MB	124	89	81	85	80	94	86
<b>American Cities</b>							
Boston, MA	350	255	224	246	273	314	332
Chicago, IL <sup>3</sup>	210	126	100	112	117	141	130
Detroit, MI <sup>3</sup>	285	158	128	140	137	158	161
Houston, TX <sup>3</sup>	153	96	91	111	117	140	138
Miami, FL <sup>3</sup>	194	146	138	149	160	189	173
Nashville, TN	187	151	139	155	187	226	180
New York, NY <sup>3</sup>	397	276	248	275	228	270	285
Portland, OR <sup>3</sup>	182	127	108	121	123	149	152
San Francisco, CA <sup>3</sup>	382	273	266	271	225	269	283
Seattle, WA	185	109	84	115	132	169	163
<b>AVERAGE</b>	<b>210</b>	<b>146</b>	<b>132</b>	<b>149</b>	<b>155</b>	<b>180</b>	<b>163</b>

1) Supply voltage of 25 kV, customer-owned transformer.

2) Supply voltage of 120 kV, customer-owned transformer.

3) These bills have been estimated by Hydro-Québec and may differ from actual bills.

4) Bills corresponding to consumption levels of 500 kW or more have been estimated by Hydro-Québec based on the applicable general rate.

5) Newfoundland and Labrador Hydro rates for customers with a power demand of 30,000 kW or more; Newfoundland Power rates for all other customer categories.





# 03

## Detailed Results **Residential**

Monthly Bills

Average Prices

Comparative Index



## RESIDENTIAL

### Monthly Bills on April 1, 2017

(in CA\$)

Consumption	625 kWh	750 kWh	1,000 kWh	2,000 kWh	3,000 kWh
<b>Canadian Cities</b>					
Montréal, QC	48.57	55.84	70.70	159.90	249.10
Calgary, AB	72.84	83.40	104.53	189.04	273.54
Charlottetown, PE <sup>1</sup>	111.82	129.27	164.17	303.77	414.57
Edmonton, AB	73.29	83.33	103.40	183.68	263.96
Halifax, NS	104.97	123.80	161.46	312.09	462.72
Moncton, NB	89.16	102.68	129.70	237.80	345.90
Ottawa, ON	101.17	118.16	152.13	288.01	423.89
Regina, SK	107.89	125.06	159.41	296.81	434.21
St. John's, NL <sup>2</sup>	75.63	87.60	111.52	207.23	302.94
Toronto, ON <sup>1</sup>	111.95	129.03	163.18	299.81	436.43
Vancouver, BC	62.37	77.01	110.79	245.93	381.06
Winnipeg, MB	57.38	67.30	87.12	166.42	245.72
<b>American Cities</b>					
Boston, MA	181.05	215.56	284.50	560.40	836.29
Chicago, IL <sup>1</sup>	102.28	118.51	150.97	236.70	343.40
Detroit, MI <sup>1</sup>	132.87	159.32	212.20	423.76	635.32
Houston, TX <sup>1</sup>	93.19	107.69	123.39	239.45	355.52
Miami, FL <sup>1</sup>	87.62	103.03	133.86	283.97	434.07
Nashville, TN	100.86	117.87	151.88	287.91	423.95
New York, NY <sup>1</sup>	193.35	227.81	296.71	572.32	847.93
Portland, OR <sup>1</sup>	96.38	112.81	145.67	319.01	492.36
San Francisco, CA <sup>1</sup>	183.69	229.90	310.48	779.79	1,317.21
Seattle, WA	84.90	106.78	150.53	325.57	500.61
<b>AVERAGE</b>	<b>103.33</b>	<b>121.90</b>	<b>158.10</b>	<b>314.52</b>	<b>473.67</b>

1) These bills have been estimated by Hydro-Québec and may differ from actual bills.

2) Newfoundland Power rates.

## RESIDENTIAL

### Average Prices on April 1, 2017

(in ¢/kWh)<sup>1</sup>

Consumption	625 kWh	750 kWh	1,000 kWh	2,000 kWh	3,000 kWh
<b>Canadian Cities</b>					
Montréal, QC	7.77	7.45	7.07	8.00	8.30
Calgary, AB	11.65	11.12	10.45	9.45	9.12
Charlottetown, PE <sup>2</sup>	17.89	17.24	16.42	15.19	13.82
Edmonton, AB	11.73	11.11	10.34	9.18	8.80
Halifax, NS	16.80	16.51	16.15	15.60	15.42
Moncton, NB	14.27	13.69	12.97	11.89	11.53
Ottawa, ON	16.19	15.75	15.21	14.40	14.13
Regina, SK	17.26	16.67	15.94	14.84	14.47
St. John's, NL <sup>3</sup>	12.10	11.68	11.15	10.36	10.10
Toronto, ON <sup>2</sup>	17.91	17.20	16.32	14.99	14.55
Vancouver, BC	9.98	10.27	11.08	12.30	12.70
Winnipeg, MB	9.18	8.97	8.71	8.32	8.19
<b>American Cities</b>					
Boston, MA	28.97	28.74	28.45	28.02	27.88
Chicago, IL <sup>2</sup>	16.37	15.80	15.10	11.84	11.45
Detroit, MI <sup>2</sup>	21.26	21.24	21.22	21.19	21.18
Houston, TX <sup>2</sup>	14.91	14.36	12.34	11.97	11.85
Miami, FL <sup>2</sup>	14.02	13.74	13.39	14.20	14.47
Nashville, TN	16.14	15.72	15.19	14.40	14.13
New York, NY <sup>2</sup>	30.94	30.37	29.67	28.62	28.26
Portland, OR <sup>2</sup>	15.42	15.04	14.57	15.95	16.41
San Francisco, CA <sup>2</sup>	29.39	30.65	31.05	38.99	43.91
Seattle, WA	13.58	14.24	15.05	16.28	16.69
<b>AVERAGE</b>	<b>16.53</b>	<b>16.25</b>	<b>15.81</b>	<b>15.73</b>	<b>15.79</b>

1) In Canadian currency.

2) These bills have been estimated by Hydro-Québec and may differ from actual bills.

3) Newfoundland Power rates.

## RESIDENTIAL

### Comparative Index on April 1, 2017

(Hydro-Québec = 100)

Consumption	625 kWh	750 kWh	1,000 kWh	2,000 kWh	3,000 kWh
<b>Canadian Cities</b>					
Montréal, QC	100	100	100	100	100
Calgary, AB	150	149	148	118	110
Charlottetown, PE <sup>1</sup>	230	232	232	190	166
Edmonton, AB	151	149	146	115	106
Halifax, NS	216	222	228	195	186
Moncton, NB	184	184	183	149	139
Ottawa, ON	208	212	215	180	170
Regina, SK	222	224	225	186	174
St. John's, NL <sup>2</sup>	156	157	158	130	122
Toronto, ON <sup>1</sup>	230	231	231	187	175
Vancouver, BC	128	138	157	154	153
Winnipeg, MB	118	121	123	104	99
<b>American Cities</b>					
Boston, MA	373	386	402	350	336
Chicago, IL <sup>1</sup>	211	212	214	148	138
Detroit, MI <sup>1</sup>	274	285	300	265	255
Houston, TX <sup>1</sup>	192	193	175	150	143
Miami, FL <sup>1</sup>	180	185	189	178	174
Nashville, TN	208	211	215	180	170
New York, NY <sup>1</sup>	398	408	420	358	340
Portland, OR <sup>1</sup>	198	202	206	200	198
San Francisco, CA <sup>1</sup>	378	412	439	488	529
Seattle, WA	175	191	213	204	201
<b>AVERAGE</b>	<b>213</b>	<b>218</b>	<b>224</b>	<b>197</b>	<b>190</b>

1) These bills have been estimated by Hydro-Québec and may differ from actual bills.

2) Newfoundland Power rates.



# 04

## Detailed Results **Small Power**

Monthly Bills

Average Prices

Comparative Index





## SMALL POWER

### Monthly Bills on April 1, 2017

(in CA\$)

Power demand	6 kW	14 kW	40 kW	100 kW	100 kW
Consumption	750 kWh	2,000 kWh	10,000 kWh	14,000 kWh	25,000 kWh
Load factor	17%	20%	35%	19%	35%
<b>Canadian Cities</b>					
Montréal, QC	85.68	207.93	990.33	1,815.80	2,685.50
Calgary, AB	101.79	201.08	968.62	1,536.00	2,093.50
Charlottetown, PE <sup>1</sup>	153.35	367.97	1,711.17	2,964.57	4,195.47
Edmonton, AB	88.03	209.66	988.14	2,020.79	2,596.42
Halifax, NS	120.48	294.14	1,532.70	2,699.46	3,831.75
Moncton, NB	120.73	284.10	1,348.70	2,346.50	3,366.20
Ottawa, ON	128.86	314.59	1,503.31	2,340.96	3,757.29
Regina, SK	129.07	294.07	1,350.07	2,595.56	3,525.30
St. John's, NL <sup>2</sup>	92.94	241.04	1,014.23	1,818.15	2,532.67
Toronto, ON <sup>1</sup>	156.06	352.77	1,609.67	2,915.91	4,498.43
Vancouver, BC	100.27	249.77	1,138.40	1,817.96	2,834.36
Winnipeg, MB	83.67	187.78	854.10	1,706.82	2,234.71
<b>American Cities</b>					
Boston, MA	202.27	519.63	2,736.12	5,380.38	7,250.63
Chicago, IL <sup>1</sup>	114.35	258.09	1,277.96	2,085.16	2,997.70
Detroit, MI <sup>1</sup>	136.48	339.73	1,619.69	2,259.68	4,019.63
Houston, TX <sup>1</sup>	75.88	285.24	1,012.60	1,849.71	2,489.15
Miami, FL <sup>1</sup>	106.98	262.96	1,320.82	2,460.23	3,251.85
Nashville, TN	157.81	360.17	1,604.69	3,246.11	4,247.24
New York, NY <sup>1</sup>	243.06	809.16	2,814.94	5,367.55	6,946.74
Portland, OR <sup>1</sup>	133.28	315.53	1,421.48	2,383.99	3,492.61
San Francisco, CA <sup>1</sup>	232.59	598.25	2,857.43	4,788.10	6,866.46
Seattle, WA	92.79	247.43	1,237.14	1,783.68	2,826.42
<b>AVERAGE</b>	<b>129.84</b>	<b>327.32</b>	<b>1,496.01</b>	<b>2,644.69</b>	<b>3,751.82</b>

1) These bills have been estimated by Hydro-Québec and may differ from actual bills.

2) Newfoundland Power rates.

## SMALL POWER

### Average Prices on April 1, 2017

(in ¢/kWh)<sup>1</sup>

Power demand Consumption Load factor	6 kW 750 kWh 17%	14 kW 2,000 kWh 20%	40 kW 10,000 kWh 35%	100 kW 14,000 kWh 19%	100 kW 25,000 kWh 35%
<b>Canadian Cities</b>					
Montréal, QC	11.42	10.40	9.90	12.97	10.74
Calgary, AB	13.57	10.05	9.69	10.97	8.37
Charlottetown, PE <sup>2</sup>	20.45	18.40	17.11	21.18	16.78
Edmonton, AB	11.74	10.48	9.88	14.43	10.39
Halifax, NS	16.06	14.71	15.33	19.28	15.33
Moncton, NB	16.10	14.21	13.49	16.76	13.46
Ottawa, ON	17.18	15.73	15.03	16.72	15.03
Regina, SK	17.21	14.70	13.50	18.54	14.10
St. John's, NL <sup>3</sup>	12.39	12.05	10.14	12.99	10.13
Toronto, ON <sup>2</sup>	20.81	17.64	16.10	20.83	17.99
Vancouver, BC	13.37	12.49	11.38	12.99	11.34
Winnipeg, MB	11.16	9.39	8.54	12.19	8.94
<b>American Cities</b>					
Boston, MA	26.97	25.98	27.36	38.43	29.00
Chicago, IL <sup>2</sup>	15.25	12.90	12.78	14.89	11.99
Detroit, MI <sup>2</sup>	18.20	16.99	16.20	16.14	16.08
Houston, TX <sup>2</sup>	10.12	14.26	10.13	13.21	9.96
Miami, FL <sup>2</sup>	14.26	13.15	13.21	17.57	13.01
Nashville, TN	21.04	18.01	16.05	23.19	16.99
New York, NY <sup>2</sup>	32.41	40.46	28.15	38.34	27.79
Portland, OR <sup>2</sup>	17.77	15.78	14.21	17.03	13.97
San Francisco, CA <sup>2</sup>	31.01	29.91	28.57	34.20	27.47
Seattle, WA	12.37	12.37	12.37	12.74	11.31
<b>AVERAGE</b>	<b>17.31</b>	<b>16.37</b>	<b>14.96</b>	<b>18.89</b>	<b>15.01</b>

1) In Canadian currency.

2) These bills have been estimated by Hydro-Québec and may differ from actual bills.

3) Newfoundland Power rates.

## SMALL POWER

### Comparative Index on April 1, 2017

(Hydro-Québec = 100)

Power demand Consumption Load factor	6 kW 750 kWh 17%	14 kW 2,000 kWh 20%	40 kW 10,000 kWh 35%	100 kW 14,000 kWh 19%	100 kW 25,000 kWh 35%
<b>Canadian Cities</b>					
Montréal, QC	100	100	100	100	100
Calgary, AB	119	97	98	85	78
Charlottetown, PE <sup>1</sup>	179	177	173	163	156
Edmonton, AB	103	101	100	111	97
Halifax, NS	141	141	155	149	143
Moncton, NB	141	137	136	129	125
Ottawa, ON	150	151	152	129	140
Regina, SK	151	141	136	143	131
St. John's, NL <sup>2</sup>	108	116	102	100	94
Toronto, ON <sup>1</sup>	182	170	163	161	168
Vancouver, BC	117	120	115	100	106
Winnipeg, MB	98	90	86	94	83
<b>American Cities</b>					
Boston, MA	236	250	276	296	270
Chicago, IL <sup>1</sup>	133	124	129	115	112
Detroit, MI <sup>1</sup>	159	163	164	124	150
Houston, TX <sup>1</sup>	89	137	102	102	93
Miami, FL <sup>1</sup>	125	126	133	135	121
Nashville, TN	184	173	162	179	158
New York, NY <sup>1</sup>	284	389	284	296	259
Portland, OR <sup>1</sup>	156	152	144	131	130
San Francisco, CA <sup>1</sup>	271	288	289	264	256
Seattle, WA	108	119	125	98	105
<b>AVERAGE</b>	<b>152</b>	<b>157</b>	<b>151</b>	<b>146</b>	<b>140</b>

1) These bills have been estimated by Hydro-Québec and may differ from actual bills.

2) Newfoundland Power rates.



# 05

## Detailed Results **Medium Power**

Monthly Bills

Average Prices

Comparative Index



## MEDIUM POWER

### Monthly Bills on April 1, 2017

(in CA\$)

Power demand Consumption Load factor	500 kW 100,000 kWh 28%	500 kW 200,000 kWh 56%	1,000 kW 200,000 kWh 28%	1,000 kW 400,000 kWh 56%	2,500 kW <sup>1</sup> 1,170,000 kWh 65%
<b>Canadian Cities</b>					
Montréal, QC	12,070.00	17,155.00	24,140.00	31,878.00	79,039.50
Calgary, AB	10,256.24	15,093.37	19,848.49	29,522.74	75,714.87
Charlottetown, PE <sup>2</sup>	17,959.97	29,149.97	35,864.97	58,244.97	164,552.97
Edmonton, AB <sup>3</sup>	15,391.90	22,122.40	28,572.10	42,033.09	113,206.98
Halifax, NS	17,032.50	25,537.50	34,065.00	51,075.00	137,388.45
Moncton, NB	14,498.70	23,768.70	28,993.70	47,533.70	134,587.70
Ottawa, ON	15,229.17	26,254.33	30,258.09	52,308.41	151,226.51
Regina, SK	15,787.48	23,198.48	31,559.55	46,381.55	113,215.14
St. John's, NL <sup>4</sup>	10,355.84	16,413.59	19,583.72	31,565.26	86,123.23
Toronto, ON <sup>2</sup>	19,192.41	31,273.85	37,935.93	61,871.17	165,400.55
Vancouver, BC	11,660.25	17,443.01	23,328.26	34,878.26	94,890.23
Winnipeg, MB	9,454.71	13,270.71	18,693.06	26,325.06	65,020.92
<b>American Cities</b>					
Boston, MA	29,283.08	42,753.75	58,343.02	85,284.37	233,920.20
Chicago, IL <sup>2</sup>	12,506.66	18,042.59	25,005.06	35,768.17	91,452.92
Detroit, MI <sup>2</sup>	16,019.32	23,343.03	32,018.91	46,260.28	112,121.15
Houston, TX <sup>2</sup>	11,776.02	17,589.16	26,273.85	37,900.14	98,233.42
Miami, FL <sup>2</sup>	15,114.84	21,720.97	30,129.27	43,341.53	115,897.06
Nashville, TN	18,053.42	26,626.40	35,846.95	52,992.91	158,845.20
New York, NY <sup>2</sup>	30,902.96	45,259.18	61,745.50	90,457.95	186,106.15
Portland, OR <sup>2</sup>	14,802.20	22,840.35	28,230.95	43,567.62	109,929.76
San Francisco, CA <sup>2</sup>	33,924.44	47,579.72	65,713.30	91,482.02	187,867.55
Seattle, WA	11,726.09	21,241.65	23,129.36	42,108.12	119,608.49
<b>AVERAGE</b>	<b>16,499.92</b>	<b>24,894.44</b>	<b>32,694.50</b>	<b>49,217.29</b>	<b>127,015.86</b>

1) Supply voltage of 25 kV, customer-owned transformer.

2) These bills have been estimated by Hydro-Québec and may differ from actual bills.

3) Bills corresponding to consumption levels of 500 kW or more have been estimated by Hydro-Québec based on the applicable general rate.

4) Newfoundland Power rates.

## MEDIUM POWER

### Average Prices on April 1, 2017

(in ¢/kWh)<sup>1</sup>

Power demand Consumption Load factor	500 kW 100,000 kWh 28%	500 kW 200,000 kWh 56%	1,000 kW 200,000 kWh 28%	1,000 kW 400,000 kWh 56%	2,500 kW <sup>2</sup> 1,170,000 kWh 65%
<b>Canadian Cities</b>					
Montréal, QC	12.07	8.58	12.07	7.97	6.76
Calgary, AB	10.26	7.55	9.92	7.38	6.47
Charlottetown, PE <sup>3</sup>	17.96	14.57	17.93	14.56	14.06
Edmonton, AB <sup>4</sup>	15.39	11.06	14.29	10.51	9.68
Halifax, NS	17.03	12.77	17.03	12.77	11.74
Moncton, NB	14.50	11.88	14.50	11.88	11.50
Ottawa, ON	15.23	13.13	15.13	13.08	12.93
Regina, SK	15.79	11.60	15.78	11.60	9.68
St. John's, NL <sup>5</sup>	10.36	8.21	9.79	7.89	7.36
Toronto, ON <sup>3</sup>	19.19	15.64	18.97	15.47	14.14
Vancouver, BC	11.66	8.72	11.66	8.72	8.11
Winnipeg, MB	9.45	6.64	9.35	6.58	5.56
<b>American Cities</b>					
Boston, MA	29.28	21.38	29.17	21.32	19.99
Chicago, IL <sup>3</sup>	12.51	9.02	12.50	8.94	7.82
Detroit, MI <sup>3</sup>	16.02	11.67	16.01	11.57	9.58
Houston, TX <sup>3</sup>	11.78	8.79	13.14	9.48	8.40
Miami, FL <sup>3</sup>	15.11	10.86	15.06	10.84	9.91
Nashville, TN	18.05	13.31	17.92	13.25	13.58
New York, NY <sup>3</sup>	30.90	22.63	30.87	22.61	15.91
Portland, OR <sup>3</sup>	14.80	11.42	14.12	10.89	9.40
San Francisco, CA <sup>3</sup>	33.92	23.79	32.86	22.87	16.06
Seattle, WA	11.73	10.62	11.56	10.53	10.22
<b>AVERAGE</b>	<b>16.50</b>	<b>12.45</b>	<b>16.35</b>	<b>12.30</b>	<b>10.86</b>

1) In Canadian currency.

2) Supply voltage of 25 kV, customer-owned transformer.

3) These bills have been estimated by Hydro-Québec and may differ from actual bills.

4) Bills corresponding to consumption levels of 500 kW or more have been estimated by Hydro-Québec based on the applicable general rate.

5) Newfoundland Power rates.



## MEDIUM POWER

### Comparative Index on April 1, 2017

(Hydro-Québec = 100)

Power demand Consumption Load factor	500 kW 100,000 kWh 28%	500 kW 200,000 kWh 56%	1,000 kW 200,000 kWh 28%	1,000 kW 400,000 kWh 56%	2,500 kW <sup>1</sup> 1,170,000 kWh 65%
<b>Canadian Cities</b>					
Montréal, QC	100	100	100	100	100
Calgary, AB	85	88	82	93	96
Charlottetown, PE <sup>2</sup>	149	170	149	183	208
Edmonton, AB <sup>3</sup>	128	129	118	132	143
Halifax, NS	141	149	141	160	174
Moncton, NB	120	139	120	149	170
Ottawa, ON	126	153	125	164	191
Regina, SK	131	135	131	145	143
St. John's, NL <sup>4</sup>	86	96	81	99	109
Toronto, ON <sup>2</sup>	159	182	157	194	209
Vancouver, BC	97	102	97	109	120
Winnipeg, MB	78	77	77	83	82
<b>American Cities</b>					
Boston, MA	243	249	242	268	296
Chicago, IL <sup>2</sup>	104	105	104	112	116
Detroit, MI <sup>2</sup>	133	136	133	145	142
Houston, TX <sup>2</sup>	98	103	109	119	124
Miami, FL <sup>2</sup>	125	127	125	136	147
Nashville, TN	150	155	148	166	201
New York, NY <sup>2</sup>	256	264	256	284	235
Portland, OR <sup>2</sup>	123	133	117	137	139
San Francisco, CA <sup>2</sup>	281	277	272	287	238
Seattle, WA	97	124	96	132	151
<b>AVERAGE</b>	<b>137</b>	<b>145</b>	<b>135</b>	<b>154</b>	<b>161</b>

1) Supply voltage of 25 kV, customer-owned transformer.

2) These bills have been estimated by Hydro-Québec and may differ from actual bills.

3) Bills corresponding to consumption levels of 500 kW or more have been estimated by Hydro-Québec based on the applicable general rate.

4) Newfoundland Power rates.



# 06

## Detailed Results

### **Large Power**

Monthly Bills

Average Prices

Comparative Index



## LARGE POWER

### Monthly Bills on April 1, 2017

(in CA\$)

Power demand	5,000 kW	5,000 kW	10,000 kW	30,000 kW	50,000 kW	50,000 kW
Consumption	2,340,000 kWh	3,060,000 kWh	5,760,000 kWh	17,520,000 kWh	23,400,000 kWh	30,600,000 kWh
Voltage <sup>1</sup>	25 kV	25 kV	120 kV	120 kV	120 kV	120 kV
Load factor	65%	85%	80%	81%	65%	85%
<b>Canadian Cities</b>						
Montréal, QC	135,075.00	158,619.00	288,486.00	873,306.00	1,265,850.00	1,501,290.00
Calgary, AB	149,113.44	186,278.39	353,191.45	1,070,402.20	1,484,099.15	1,855,748.69
Charlottetown, PE <sup>2</sup>	234,896.00	284,864.00	544,744.00	1,650,888.00	2,348,960.00	2,848,640.00
Edmonton, AB <sup>3</sup>	195,831.98	234,924.09	317,234.97	948,913.53	1,394,979.32	1,617,047.62
Halifax, NS	252,178.29	310,347.09	591,609.77	1,794,230.91	2,521,806.84	3,103,494.84
Moncton, NB	202,541.80	240,543.40	440,220.00	1,333,140.00	1,920,300.00	2,294,700.00
Ottawa, ON	303,816.22	381,151.52	565,809.67	1,183,707.04	1,567,145.52	1,854,238.03
Regina, SK	217,367.66	265,355.66	431,402.73	1,293,666.73	1,809,010.73	2,233,810.73
St. John's, NL <sup>4</sup>	169,432.95	212,566.50	397,517.19	867,180.00	1,226,350.00	1,498,150.00
Toronto, ON <sup>2</sup>	410,578.94	445,324.24	575,258.58	1,234,403.81	1,658,314.46	1,946,356.79
Vancouver, BC	189,765.19	230,721.49	367,478.63	1,114,116.84	1,574,775.37	1,924,954.57
Winnipeg, MB	127,612.87	153,453.67	252,745.12	766,000.88	1,089,156.24	1,321,932.24
<b>American Cities</b>						
Boston, MA	446,069.09	541,573.36	1,035,077.17	3,136,431.45	4,457,834.17	5,412,876.90
Chicago, IL <sup>2</sup>	182,201.97	220,949.15	391,091.57	1,104,677.07	1,528,211.48	1,915,683.32
Detroit, MI <sup>2</sup>	223,682.63	259,696.04	484,350.81	1,463,702.98	2,154,692.72	2,507,789.57
Houston, TX <sup>2</sup>	193,688.03	236,393.91	419,469.19	1,267,880.69	1,779,108.33	2,191,986.53
Miami, FL <sup>2</sup>	231,492.86	276,242.12	463,887.08	1,399,441.84	2,013,159.33	2,407,245.80
Nashville, TN	319,459.15	385,869.66	583,381.94	1,698,617.44	2,492,837.21	2,910,445.48
New York, NY <sup>2</sup>	372,032.28	441,541.51	848,148.40	2,567,254.91	3,718,702.67	4,413,795.01
Portland, OR <sup>2</sup>	218,376.42	267,083.12	497,452.26	1,501,678.71	2,136,596.08	2,588,811.27
San Francisco, CA <sup>2</sup>	372,312.54	450,911.88	859,884.78	2,600,575.50	3,699,371.61	4,485,365.02
Seattle, WA	239,359.90	307,323.39	533,737.56	1,621,170.02	2,200,234.99	2,821,027.64
<b>AVERAGE</b>	<b>244,858.42</b>	<b>295,078.78</b>	<b>511,008.13</b>	<b>1,476,881.21</b>	<b>2,092,795.28</b>	<b>2,529,790.46</b>

1) Customer-owned transformer.

2) These bills have been estimated by Hydro-Québec and may differ from actual bills.

3) Bills corresponding to consumption levels of 500 kW or more have been estimated by Hydro-Québec based on the applicable general rate.

4) Newfoundland and Labrador Hydro rates for customers with a power demand of 30,000 kW or more; Newfoundland Power rates for all other customer categories.

## LARGE POWER

### Average Prices on April 1, 2017

(in ¢/kWh)<sup>1</sup>

Power demand	5,000 kW	5,000 kW	10,000 kW	30,000 kW	50,000 kW	50,000 kW
Consumption	2,340,000 kWh	3,060,000 kWh	5,760,000 kWh	17,520,000 kWh	23,400,000 kWh	30,600,000 kWh
Voltage <sup>2</sup>	25 kV	25 kV	120 kV	120 kV	120 kV	120 kV
Load factor	65%	85%	80%	81%	65%	85%
<b>Canadian Cities</b>						
Montréal, QC	5.77	5.18	5.01	4.98	5.41	4.91
Calgary, AB	6.37	6.09	6.13	6.11	6.34	6.06
Charlottetown, PE <sup>3</sup>	10.04	9.31	9.46	9.42	10.04	9.31
Edmonton, AB <sup>4</sup>	8.37	7.68	5.51	5.42	5.96	5.28
Halifax, NS	10.78	10.14	10.27	10.24	10.78	10.14
Moncton, NB	8.66	7.86	7.64	7.61	8.21	7.50
Ottawa, ON	12.98	12.46	9.82	6.76	6.70	6.06
Regina, SK	9.29	8.67	7.49	7.38	7.73	7.30
St. John's, NL <sup>5</sup>	7.24	6.95	6.90	4.95	5.24	4.90
Toronto, ON <sup>3</sup>	17.55	14.55	9.99	7.05	7.09	6.36
Vancouver, BC	8.11	7.54	6.38	6.36	6.73	6.29
Winnipeg, MB	5.45	5.01	4.39	4.37	4.65	4.32
<b>American Cities</b>						
Boston, MA	19.06	17.70	17.97	17.90	19.05	17.69
Chicago, IL <sup>3</sup>	7.79	7.22	6.79	6.31	6.53	6.26
Detroit, MI <sup>3</sup>	9.56	8.49	8.41	8.35	9.21	8.20
Houston, TX <sup>3</sup>	8.28	7.73	7.28	7.24	7.60	7.16
Miami, FL <sup>3</sup>	9.89	9.03	8.05	7.99	8.60	7.87
Nashville, TN	13.65	12.61	10.13	9.70	10.65	9.51
New York, NY <sup>3</sup>	15.90	14.43	14.72	14.65	15.89	14.42
Portland, OR <sup>3</sup>	9.33	8.73	8.64	8.57	9.13	8.46
San Francisco, CA <sup>3</sup>	15.91	14.74	14.93	14.84	15.81	14.66
Seattle, WA	10.23	10.04	9.27	9.25	9.40	9.22
<b>AVERAGE</b>	<b>10.46</b>	<b>9.64</b>	<b>8.87</b>	<b>8.43</b>	<b>8.94</b>	<b>8.27</b>

1) In Canadian currency.

2) Customer-owned transformer.

3) These bills have been estimated by Hydro-Québec and may differ from actual bills.

4) Bills corresponding to consumption levels of 500 kW or more have been estimated by Hydro-Québec based on the applicable general rate.

5) Newfoundland and Labrador Hydro rates for customers with a power demand of 30,000 kW or more; Newfoundland Power rates for all other customer categories.

## LARGE POWER

### Comparative Index on April 1, 2017

(Hydro-Québec = 100)

Power demand	5,000 kW	5,000 kW	10,000 kW	30,000 kW	50,000 kW	50,000 kW
Consumption	2,340,000 kWh	3,060,000 kWh	5,760,000 kWh	17,520,000 kWh	23,400,000 kWh	30,600,000 kWh
Voltage <sup>1</sup>	25 kV	25 kV	120 kV	120 kV	120 kV	120 kV
Load factor	65%	85%	80%	81%	65%	85%

Canadian Cities						
Montréal, QC	100	100	100	100	100	100
Calgary, AB	110	117	122	123	117	124
Charlottetown, PE <sup>2</sup>	174	180	189	189	186	190
Edmonton, AB <sup>3</sup>	145	148	110	109	110	108
Halifax, NS	187	196	205	205	199	207
Moncton, NB	150	152	153	153	152	153
Ottawa, ON	225	240	196	136	124	124
Regina, SK	161	167	150	148	143	149
St. John's, NL <sup>4</sup>	125	134	138	99	97	100
Toronto, ON <sup>2</sup>	304	281	199	141	131	130
Vancouver, BC	140	145	127	128	124	128
Winnipeg, MB	94	97	88	88	86	88
American Cities						
Boston, MA	330	341	359	359	352	361
Chicago, IL <sup>2</sup>	135	139	136	126	121	128
Detroit, MI <sup>2</sup>	166	164	168	168	170	167
Houston, TX <sup>2</sup>	143	149	145	145	141	146
Miami, FL <sup>2</sup>	171	174	161	160	159	160
Nashville, TN	237	243	202	195	197	194
New York, NY <sup>2</sup>	275	278	294	294	294	294
Portland, OR <sup>2</sup>	162	168	172	172	169	172
San Francisco, CA <sup>2</sup>	276	284	298	298	292	299
Seattle, WA	177	194	185	186	174	188
<b>AVERAGE</b>	<b>181</b>	<b>186</b>	<b>177</b>	<b>169</b>	<b>165</b>	<b>169</b>

1) Customer-owned transformer.

2) These bills have been estimated by Hydro-Québec and may differ from actual bills.

3) Bills corresponding to consumption levels of 500 kW or more have been estimated by Hydro-Québec based on the applicable general rate.

4) Newfoundland and Labrador Hydro rates for customers with a power demand of 30,000 kW or more; Newfoundland Power rates for all other customer categories.







Appendix  
**Rate Adjustments**

Average Adjustments

Adjustments by  
Customer Category



## RATE ADJUSTMENTS

All Categories

	Before April 2016		Between April 1, 2016 and April 1, 2017		Comments
	Year	%	Date	%	
<b>Canadian Utilities</b>					
Hydro-Québec, QC	2016	0.7	April 1, 2017	0.7	
ENMAX, AB	2016	n.a.	January 1, 2017	14.38	Applicable to distribution portion only
Maritime Electric, PE	2016	2.3	March 1, 2017	2.3	
EPCOR, AB	2016	n.a.	April 1, 2017	n.a.	
Nova Scotia Power, NS	2016	-1.0	January 1, 2017	1.5	
NB Power, NB	2016	1.63	July 1, 2016 April 1, 2017	1.66 2.05	
Hydro Ottawa, ON	2016	5.8	January 1, 2017	n.a.	
SaskPower, SK	2015	2.0	July 1, 2016 January 1, 2017	5.0 3.5	
Newfoundland Power, NL <sup>1</sup>	2015	-5.25	July 1, 2016	-7.93	
Newfoundland and Labrador Hydro, NL <sup>1</sup>	2015	2.7	—	—	
Toronto Hydro, ON	2016	n.a.	January 1, 2017	n.a.	
BC Hydro, BC	2016	4.0	April 1, 2017	3.5	
Manitoba Hydro, MB	2015	3.95	August 1, 2016	3.36	

### Data concerning American utilities not available.

n.a.: Not available.

1) Newfoundland and Labrador Hydro rates for customers with a power demand of 30,000 kW or more; Newfoundland Power rates for all other customer categories.

## RATE ADJUSTMENTS (Between April 1, 2016, and April 1, 2017)

Adjustments by Customer Category

	Date	Residential %	General %	Industrial %	Average %
<b>Canadian Utilities</b>					
Hydro-Québec, QC	April 1, 2017	0.7	0.7 <sup>1</sup> 0.6 <sup>2</sup> 0.7 <sup>3</sup>	0.2	0.7
ENMAX, AB	January 1, 2017	15.62 <sup>4</sup>	n.a.	n.a.	14.38 <sup>4</sup>
Maritime Electric, PE	March 1, 2017	n.a.	n.a.	n.a.	2.3
EPCOR, AB	April 1, 2017	n.a.	n.a.	n.a.	n.a.
Nova Scotia Power, NS	January 1, 2017	1.7	1.8 <sup>1</sup> 0.9 <sup>2</sup> 3.7 <sup>3</sup>	1.2 <sup>5</sup> 1.6 <sup>6</sup> 1.4 <sup>7</sup>	1.5
NB Power, NB	July 1, 2016 April 1, 2017	1.66 1.66	1.66 0.8	1.66 1.77	1.66 2.05
Hydro Ottawa, ON	January 1, 2017	-6.47	-5.88	-6.16	n.a.
SaskPower, SK	July 1, 2016 January 1, 2017	5 3.5	5 3.5	5 3.5	5 3.5
Newfoundland Power, NL <sup>8</sup>	July 1, 2016	-7.07	-9.88	-11.11	-7.93
Newfoundland and Labrador Hydro, NL <sup>8</sup>	—	—	—	—	—
Toronto Hydro, ON	January 1, 2017	n.a.	n.a.	n.a.	n.a.
BC Hydro, BC	April 1, 2017	3.5	3.5	3.5	3.5
Manitoba Hydro, MB	August 1, 2016	3.36	3.36 <sup>1</sup> 3.37 <sup>2</sup> 3.37 <sup>3</sup>	n.a.	3.36

### Data concerning American utilities not available.

n.a.: Not available.

- 1) Small power
- 2) Medium power
- 3) Large power
- 4) Distribution charge only
- 5) Small industrial
- 6) Medium industrial
- 7) Large industrial
- 8) Newfoundland and Labrador Hydro rates for customers with a power demand of 30,000 kW or more; Newfoundland Power rates for all other customer categories.

Note: Because of adjustment clauses (see list in Appendix B), electricity bills issued by a utility may vary, even though base rates have not changed.

# B

Appendix  
Time-of-use Rates  
Adjustment Clauses



## TIME-OF-USE RATES

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The utilities listed below apply time-of-use rates for different consumption levels. For the purposes of this study, an annual average has been calculated for utilities whose rates vary according to the season or time of day (or both). In the case of utilities whose supply costs are determined by the market, the average for the month of March 2017 was used.

CenterPoint Energy, TX	All levels
Commonwealth Edison, IL	All levels
Consolidated Edison, NY	All levels
DTE Electric, MI	500–50,000 kW
ENMAX, AB	All levels
EPCOR, AB	All levels
Eversource Energy, MA	General: All levels
Hydro Ottawa, ON	All levels
Nashville Electric Service, TN	All levels
Newfoundland Power, NL	Residential General: 14–10,000 kW
Pacific Gas and Electric, CA	All levels
Pacific Power and Light, OR	1,000–50,000 kW
Seattle City Light, WA	Residential General: 1,000–50,000 kW
Toronto Hydro, ON	All levels

## ADJUSTMENT CLAUSES

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Below is a list of utilities whose rates include adjustment clauses that may cause fluctuations in the price of electricity even though base rates have not been adjusted.

BC Hydro, BC	Deferral Account
CenterPoint Energy, TX	Accumulated Deferred Federal Income Tax Credit Distribution Cost Recovery Factor Energy Efficiency Cost Recovery Factor Nuclear Decommissioning Charge Rate Case Expenses Surcharge Remand of Energy Efficiency Costs Recovery Factor Surcharge System Benefit Fund Charge Transition Charges Transmission Cost Recovery Factor
Commonwealth Edison, IL	Capacity Charge Energy Assistance Charge for the Supplemental Low-Income Energy Assistance Fund Energy Efficiency and Demand Response Adjustments Environmental Cost Recovery Adjustment Hourly Purchased Electricity Adjustment Factor Miscellaneous Procurement Components Charge PJM Services Charges Purchased Electricity Adjustment Factor Purchased Electricity Charges Renewable Energy Resources and Coal Technology Development Assistance Charge Residential Real Time Pricing Program Cost Recovery Charges Uncollectible Cost Factors
Consolidated Edison, NY	Adjustment Factors – MSC and MAC Billing and Payment Processing Delivery Revenue Surcharge Clean Energy Standard Delivery Surcharge Market Supply Charge Merchant Function Charge Monthly Adjustment Clause Revenue Decoupling Mechanism Adjustment Surcharge to Collect Assessments under Section 18-a of the Public Service Law System Benefits Charge
DTE Electric, MI	Energy Optimization Surcharge Low Income Energy Assistance Fund Factor Nuclear Surcharge Power Supply Cost Recovery Clause Renewable Energy Plan Surcharge
ENMAX, AB	Balancing Pool Allocation Refund Rider Local Access Fee Transmission Access Charge Deferral Account Rider



EPCOR, AB	Balancing Pool Rider DAS True-up Rider Local Access Fee SAS True-up Rider Transmission Charge Deferral Account True-Up Rider
Eversource Energy, MA	Attorney General Consultant Expenses Provision Basic Service Adjustment Default Service Adjustment Demand-Side Management Charge Energy Conservation Charge Energy Efficiency Reconciliation Factor Long Term Renewable Contract Adjustment Net Metering Recovery Surcharge Pension Adjustment Renewable Energy Charge Residential Assistance Adjustment Clause Storm Cost Recovery Adjustment Transition Cost Adjustment Transmission Service Cost Adjustment
Florida Power and Light, FL	2017 Interim Storm Restoration Recovery Charge Energy Conservation Cost Recovery Clause Capacity Payment Recovery Clause Environmental Cost Recovery Clause Fuel Cost and Purchase Power Recovery Clause Storm Bond Repayment Charge and Storm Bond Tax Charge
Hydro Ottawa, ON	Debt Retirement Charge Disposition of Class B WMS – Sub Accounts CBR Disposition of Deferral/Variance Accounts Disposition of Global Adjustment Account (2017) Disposition of Group 2 Accounts Ontario Electricity Support Program Charge Rural or Remote Electricity Rate Protection Charge
Maritime Electric, PE	Energy Cost Adjustment Mechanism
Nashville Electric Service, TN	TVA Fuel Cost Adjustment
Newfoundland and Labrador Hydro, NL	Municipal Tax Adjustment Rate Stabilization Adjustment
Nova Scotia Power, NS	Base Cost of Fuel Demand Side Management Cost Recovery Rider Fuel Adjustment Mechanism (AA/BA)
Pacific Gas and Electric, CA	California Climate Credit Competition Transition Charges DWR Bond Energy Cost Recovery Amount New System Generation Charge Nuclear Decommissioning Public Purpose Programs Reliability Services Transmission Rate Adjustments

Pacific Power and Light, OR

Adjustment Associated with the Pacific Northwest Electric  
Power Planning and Conservation Act  
Energy Conservation Charge  
Adjustment to Remove Deer Creek Mine Investment from Rate Base  
Deer Creek Mine Undepreciated Investment Adjustment  
Deferred Accounting Adjustment  
Generation Investment Adjustment  
Independent Evaluator Cost Adjustment  
Intervenor Funding Adjustment  
Klamath Dam Removal Surcharges  
Oregon Solar Incentive Program Deferral  
Pilot Program Cost Adjustment  
Property Sales Balancing Account Adjustment  
Public Purpose Charge  
Rate Mitigation Adjustment  
Renewable Adjustment Clause  
Renewable Resource Deferral Adjustment  
TAM Adjustment for Other Revenues

Toronto Hydro, ON

Application of IFRS – 2014 Derecognition  
Application of Operations Center Consolidation Plan Sharing  
Debt Retirement Charge  
Disposition of Capacity Based Recovery Class B Variance Sub-account  
Disposition of Class B Post 2011 Global Adjustment Variance Account  
Disposition of Deferral/Variance Account  
Disposition of LRAM Variance Account  
Disposition of Post Employment Benefit – Tax Savings  
Disposition of Pre 2011 Global Adjustment Variance Account  
Ontario Electricity Support Program Charge  
Recovery of 2008-2010 Smart Meter Costs  
Recovery of Hydro One Capital Contributions Variance  
Recovery of Stranded Meter Assets  
Recovery of the Gain on the Sale of Named Properties  
Recovery of 2015 Foregone Revenue  
Recovery of 2016 Foregone Revenue  
Rural or Remote Electricity Rate Protection Charge  
Smart Metering Entity Charge



## Appendix **Applicable Taxes**

Residential Sector

General Sector

Industrial Sector



## TAXES APPLICABLE TO RESIDENTIAL SERVICE

On April 1, 2017

	Tax	% (or other)	Applicable
<b>Canadian Cities</b>			
<b>Montréal, QC</b>	Goods and services tax	5	To base amount of bill
	Québec sales tax	9.975	To base amount of bill
Calgary, AB	Goods and services tax	5	To base amount of bill
Charlottetown, PE	Harmonized sales tax	15	To base amount of bill
Edmonton, AB	Goods and services tax	5	To base amount of bill
Halifax, NS	Harmonized sales tax	5	To base amount of bill
Moncton, NB	Harmonized sales tax	15	To base amount of bill
Ottawa, ON	Harmonized sales tax	13	To base amount of bill
Regina, SK	Municipal tax	10	To base amount of bill
	Goods and services tax	5	To base amount of bill
St. John's, NL	Harmonized sales tax	15	To base amount of bill
Toronto, ON	Harmonized sales tax	13	To base amount of bill
Vancouver, BC	Regional transit levy	\$1.90	Monthly
	Goods and services tax	5	To base amount of bill + regional transit levy
Winnipeg, MB	Provincial sales tax	8	To base amount of bill (heating other than electric)
		1.4	To base amount of bill (electric heating)
	Municipal tax	2.5	To base amount of bill (heating other than electric)
		0.5	To base amount of bill (electric heating)
Goods and services tax	5	To base amount of bill + municipal tax	
<b>American Cities</b>			
Boston, MA	None		
Chicago, IL	State tax	¢/kWh	Tax varies by energy block
	Municipal tax	¢/kWh	Tax varies by energy block
	Franchise cost	¢/kWh	Tax varies by energy block
Detroit, MI	State sales tax	6	To base amount of bill
	City of Detroit utility users' tax	5	To base amount of bill
Houston, TX	Municipal tax	1	To base amount of bill
Miami, FL	Gross receipts tax	2.5641	To base amount of bill
	Franchise fee	6	To base amount of bill + gross receipts tax
	Municipal tax	10	To a portion of base amount of bill
Nashville, TN	None		
New York, NY	Commodity gross receipts tax	2.4066	To commodity component
	Delivery gross receipts tax	5.0517	To other components
	Sales tax	4.5	To base amount of bill + gross receipts tax
Portland, OR	Multnomah County business income tax	0.23	To a portion of base amount of bill
	City of Portland franchise tax	1.5	To a portion of base amount of bill
San Francisco, CA	Energy Commission tax	0.029¢	To energy consumption
Seattle, WA	State utility tax	3.8734	Tax included in rate schedule prices
	Seattle occupation tax	6	Tax included in rate schedule prices

## TAXES APPLICABLE TO GENERAL SERVICE

On April 1, 2017

	Tax	% (or other)	Applicable
<b>Canadian Cities</b>			
<b>Montréal, QC</b>	Goods and services tax	5	To base amount of bill (tax refundable)
	Québec sales tax	9.975	To base amount of bill (tax refundable) <sup>1</sup>
Calgary, AB	Goods and services tax	5	To base amount of bill
Charlottetown, PE	Harmonized sales tax	15	To base amount of bill (tax refundable)
Edmonton, AB	Goods and services tax	5	To base amount of bill
Halifax, NS	Harmonized sales tax	15	To base amount of bill (tax refundable)
Moncton, NB	Harmonized sales tax	15	To base amount of bill (tax refundable)
Ottawa, ON	Harmonized sales tax	13	To base amount of bill
Regina, SK	Municipal tax	10	To base amount of bill
	Provincial sales tax	6	To base amount of bill + municipal tax
	Goods and services tax	5	To base amount of bill
St. John's, NL	Harmonized sales tax	15	To base amount of bill (tax refundable)
Toronto, ON	Harmonized sales tax	13	To base amount of bill (tax refundable)
Vancouver, BC	Goods and services tax	5	To base amount of bill
	Provincial sales tax	7	To base amount of bill
Winnipeg, MB	Provincial sales tax	8	To base amount of bill (industries other than mining and manufacturing)
		1.6	To base amount of bill (mining and manufacturing companies)
	Municipal tax	5	To base amount of bill (heating other than electric)
		1	To base amount of bill (electric heating)
	Goods and services tax	5	To base amount of bill + municipal tax (tax refundable)
<b>American Cities</b>			
Boston, MA	State sales tax	6.25	To a portion of base amount of bill
Chicago, IL	State tax	¢/kWh	Tax varies by energy block
	Municipal tax	¢/kWh	Tax varies by energy block
	Franchise cost	¢/kWh	Tax varies by energy block
Detroit, MI	State sales tax	6	To base amount of bill
	City of Detroit utility users' tax	5	To base amount of bill
Houston, TX	State tax	6.25	To base amount of bill
	Municipal tax	1	To base amount of bill
	Transit tax	1	To base amount of bill
	County tax	0.5	To base amount of bill
Miami, FL	Gross receipts tax	2.5641	To base amount of bill
	Franchise fee	6	To base amount of bill + gross receipts tax
	Municipal tax	10	To a portion of base amount of bill
	State sales tax	6.95	To base amount of bill + gross receipts tax + franchise fee
	Local tax	1	To base amount of bill + gross receipts tax + franchise fee
Nashville, TN	State sales tax	7	To base amount of bill

1) Commercial customers with revenue below \$10 million and customers in the manufacturing sector are entitled to a refund of this tax.

## TAXES APPLICABLE TO GENERAL SERVICE (cont'd)

On April 1, 2017

	Tax	% (or other)	Applicable
New York, NY	Commodity gross receipts tax	2.4066	To commodity component
	Delivery gross receipts tax	2.5109	To other components
	Sales tax	8.875	To base amount of bill + gross receipts tax
Portland, OR	Multnomah County business income tax	0.23	To a portion of base amount of bill
	City of Portland franchise tax	1.5	To a portion of base amount of bill
San Francisco, CA	Energy Commission tax	0.029¢	To energy consumption
	San Francisco utility users' tax	8.5	To base amount of bill
Seattle, WA	State utility tax	3.8734	Tax included in rate schedule prices
	Seattle occupation tax	6	Tax included in rate schedule prices

## TAXES APPLICABLE TO INDUSTRIAL SERVICE

On April 1, 2017

	Tax	% (or other)	Applicable
<b>Canadian Cities</b>			
<b>Montréal, QC</b>	Goods and services tax	5	To base amount of bill (tax refundable)
	Québec sales tax	9.975	To base amount of bill (tax refundable) <sup>1</sup>
Calgary, AB	Goods and services tax	5	To base amount of bill
Charlottetown, PE	Harmonized sales tax	15	To base amount of bill (tax refundable)
Edmonton, AB	Goods and services tax	5	To base amount of bill
Halifax, NS	Harmonized sales tax	15	To base amount of bill (tax refundable)
Moncton, NB	Harmonized sales tax	15	To base amount of bill (tax refundable)
Ottawa, ON	Harmonized sales tax	13	To base amount of bill
Regina, SK	Municipal tax	10	To base amount of bill
	Provincial sales tax	6	To base amount of bill + municipal tax
	Goods and services tax	5	To base amount of bill
St. John's, NL	Harmonized sales tax	15	To base amount of bill (tax refundable)
Toronto, ON	Harmonized sales tax	13	To base amount of bill (tax refundable)
Vancouver, BC	Goods and services tax	5	To base amount of bill
	Provincial sales tax	7	To base amount of bill
Winnipeg, MB	Provincial sales tax	8	To base amount of bill (industries other than mining and manufacturing)
		1.6	To base amount of bill (mining and manufacturing companies)
	Municipal tax	5	To base amount of bill (heating other than electric)
		1	To base amount of bill (electric heating)
	Goods and services tax	5	To base amount of bill + municipal tax (tax refundable)
<b>American Cities</b>			
Boston, MA	State sales tax	6.25	To a portion of base amount of bill
Chicago, IL	State tax	¢/kWh	Tax varies by energy block
	Municipal tax	¢/kWh	Tax varies by energy block
	Franchise cost	¢/kWh	Tax varies by energy block
Detroit, MI	State sales tax	6	To base amount of bill
	City of Detroit utility users' tax	5	To base amount of bill
Houston, TX	State tax	6.25	To base amount of bill
	Municipal tax	1	To base amount of bill
	Transit tax	1	To base amount of bill
	County tax	0.5	To base amount of bill
Miami, FL	Gross receipts tax	2.5641	To base amount of bill
	Franchise fee	6	To base amount of bill + gross receipts tax
	Municipal tax	10	To a portion of base amount of bill
	State sales tax	6.95	To base amount of bill + gross receipts tax + franchise fee
	Local tax	1	To base amount of bill + gross receipts tax + franchise fee

1) Commercial customers with revenue below \$10 million and customers in the manufacturing sector are entitled to a refund of this tax.



## TAXES APPLICABLE TO INDUSTRIAL SERVICE (cont'd)

On April 1, 2017

	Tax	% (or other)	Applicable
Nashville, TN	State sales tax	7	To base amount of bill (companies other than manufacturing)
	State sales tax	1.5	To base amount of bill (manufacturing companies)
New York, NY	Commodity gross receipts tax	2.4066	To commodity component
	Delivery gross receipts tax	2.5109	To other components
	Sales tax	8.875	To base amount of bill + gross receipts tax
Portland, OR	Multnomah County business income tax	0.23	To a portion of base amount of bill
	City of Portland franchise tax	1.5	To a portion of base amount of bill
San Francisco, CA	Energy Commission tax	0.029¢	To energy consumption
	San Francisco utility users' tax	8.5	To base amount of bill
Seattle, WA	State utility tax	3.8734	Tax included in rate schedule prices
	Seattle occupation tax	6	Tax included in rate schedule prices

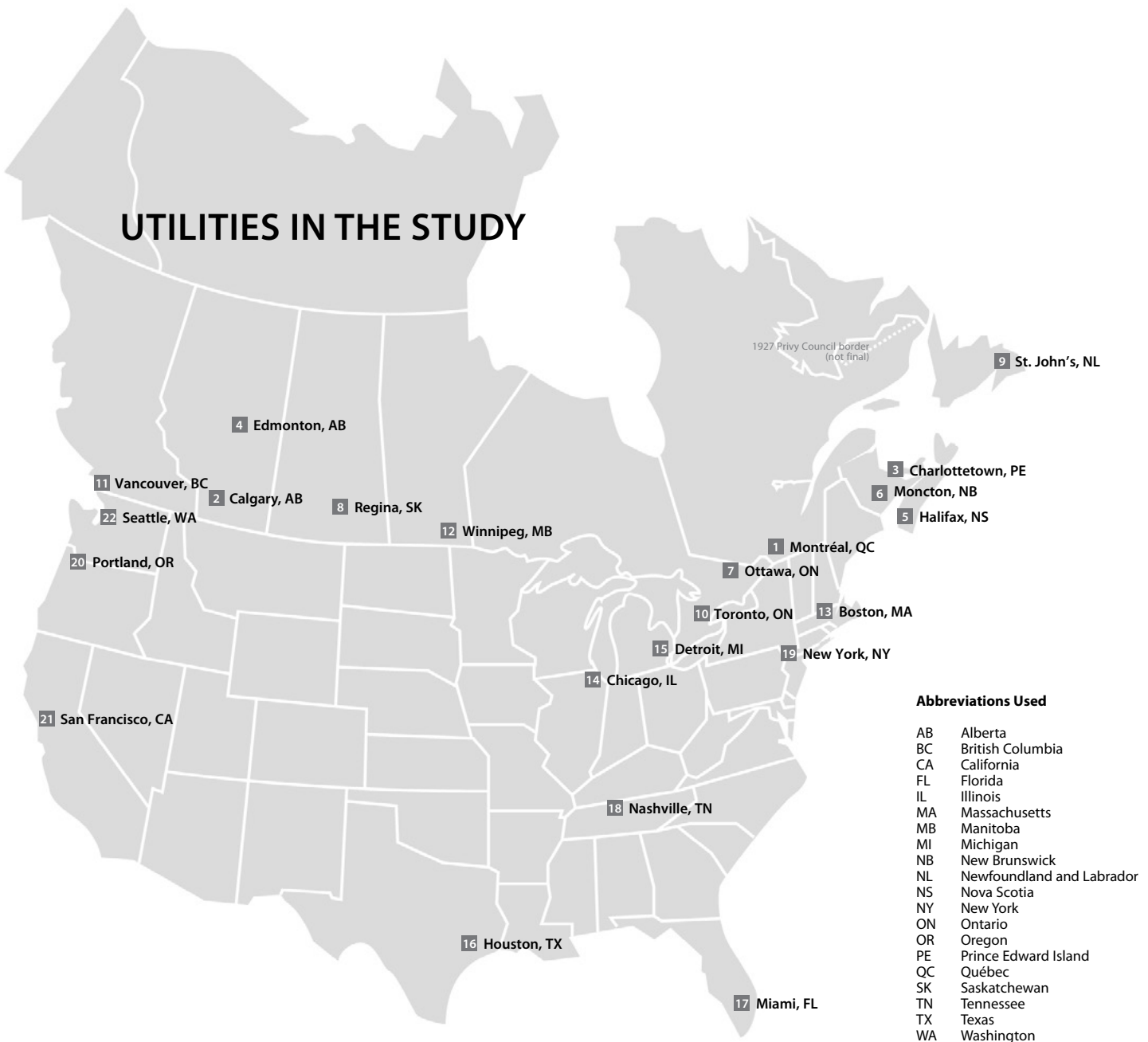


# D

Appendix  
**Utilities in the Study**



# UTILITIES IN THE STUDY



## Abbreviations Used

AB	Alberta
BC	British Columbia
CA	California
FL	Florida
IL	Illinois
MA	Massachusetts
MB	Manitoba
MI	Michigan
NB	New Brunswick
NL	Newfoundland and Labrador
NS	Nova Scotia
NY	New York
ON	Ontario
OR	Oregon
PE	Prince Edward Island
QC	Québec
SK	Saskatchewan
TN	Tennessee
TX	Texas
WA	Washington

## CANADIAN UTILITIES

- 1- Hydro-Québec
- 2- ENMAX
- 3- Maritime Electric
- 4- EPCOR
- 5- Nova Scotia Power
- 6- NB Power
- 7- Hydro Ottawa
- 8- SaskPower
- 9- Newfoundland and Labrador Hydro  
(customers with a power demand of 30,000 kW or more)  
Newfoundland Power  
(all other customer categories)
- 10- Toronto Hydro
- 11- BC Hydro
- 12- Manitoba Hydro

## AMERICAN UTILITIES

- 13- Eversource Energy
- 14- Commonwealth Edison
- 15- DTE Electric
- 16- CenterPoint Energy
- 17- Florida Power and Light
- 18- Nashville Electric Service
- 19- Consolidated Edison
- 20- Pacific Power and Light
- 21- Pacific Gas and Electric
- 22- Seattle City Light

## CANADIAN UTILITIES

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### HYDRO-QUÉBEC

Montréal, Québec

A government-owned company whose lines of business have been unbundled, Hydro-Québec is one of the largest electric utilities in North America, with an installed capacity of 36,908 MW; 99% of electricity is generated using waterpower. Its transmission and distribution activities are regulated. The utility distributes electricity to more than 4.2 million residential, commercial, institutional and industrial customer accounts throughout Québec and delivers electricity to nine municipal systems and one regional cooperative. Hydro-Québec also does business with many electric utilities in the Northeastern United States, Ontario and New Brunswick.

The *Act respecting the Régie de l'énergie* (Québec energy board) established an annual maximum heritage pool of 165 TWh that Hydro-Québec Production must supply to Hydro-Québec Distribution. The division also purchases electricity on the market, primarily through calls for tenders. The average supply cost of heritage pool electricity, set at a fixed price of 2.79¢/kWh since 1998, is indexed on January 1 since 2014 at a rate corresponding to the annual variation in the all-item consumer price index for Québec, with the exception of the large-power industrial rate (Rate L), which is exempt from the indexation of heritage pool electricity.

The Régie de l'énergie approved an average increase of 0.7% in the rates of Hydro-Québec Distribution, effective April 1, 2017, with the exception of large power customers, for which the approved increase is of 0.2%.

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### MARITIME ELECTRIC

Charlottetown, Prince Edward Island

A subsidiary of Fortis Inc., Maritime Electric is the principal supplier of electricity on Prince Edward Island, with about 78,000 customers. Since its two power plants (with a total capacity of 150 MW) are operated strictly for reserve purposes, it purchases most of its electricity from NB Power, with which it has long-term contracts, and through additional short-term contracts on the New England wholesale market. Maritime Electric also purchases nearly 52 MW of wind-generated electricity from private producers.

Since the adoption of the *Electric Power Act* on January 1, 2004, Maritime Electric has had to submit all requests for rate increases to the Island Regulatory and Appeals Commission (IRAC). In 2016, the IRAC approved a 2.3% annual rate increase for each of the next three years.

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### ENMAX

#### EPCOR

Calgary, Alberta  
Edmonton, Alberta

ENMAX Corporation is a wholly owned subsidiary of the City of Calgary. It generates, transmits and distributes electricity to nearly 946,000 customers throughout the province. In addition to its active participation in Alberta's restructured electricity industry, ENMAX serves customers who are eligible for the City of Calgary's regulated rate option tariff.

EPCOR Utilities, whose sole shareholder is the City of Edmonton, transmits and distributes electricity to nearly 379,000 residential and business customers in Edmonton. It also supplies more than 600,000 customers throughout the province who are eligible for both rate regulated and contract electricity services.

Since July 1, 2010, prices under the regulated rate option tariff have fluctuated monthly with market forecasts. In recent years, the Alberta government has embarked upon a major reform of the province's electricity market.

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### NOVA SCOTIA POWER

Halifax, Nova Scotia

Nova Scotia Power, a subsidiary of Emera, is the principal supplier of electricity in Nova Scotia, meeting most of the province's needs for electricity generation, transmission and distribution. It supplies electricity to 500,000 customers. Its generating facilities have an installed capacity in excess of 2,400 MW.

The open access transmission tariff came into effect on November 1, 2005. Under the province's energy policy, eligible customers have nondiscriminatory access to the utility's transmission system.

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## **NB POWER**

Moncton, New Brunswick

A subsidiary of provincial Crown corporation NB Power Group, NB Power Distribution and Customer Service Corporation directly serves more than 356,000 customers and sells electricity to the province's municipal systems, which together supply nearly 45,000 customers. NB Power has a generating capacity of about 3,500 MW under the management of NB Power Generation and NB Power Nuclear.

The New Brunswick electricity market has been partially open to competition since October 1, 2004. Large industrial customers and three municipal electricity distribution utilities are free to choose their supplier. Other retail market customers continue to be served by NB Power.

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## **SASKPOWER**

Regina, Saskatchewan

Crown utility SaskPower serves nearly 522,000 customers and sells wholesale electricity to municipal systems in Saskatchewan. The utility operates 25 power plants and also buys power from third parties, such that its total available generating capacity exceeds 4,400 MW.

In Saskatchewan, the wholesale electricity market has been open to competition since 2001.

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## **NEWFOUNDLAND AND LABRADOR HYDRO**

(customers with a power demand of 30,000 kW or more)

### **NEWFOUNDLAND POWER** (all other customer categories)

St. John's, Newfoundland and Labrador

Newfoundland Power, a subsidiary of Fortis Inc., serves about 264,000 customers on the island of Newfoundland. Since it operates only small generating stations with a total installed capacity of nearly 140 MW, it purchases 93% of its electricity from Newfoundland and Labrador Hydro (NLH), a subsidiary of Nalcor Energy that operates generating facilities with an installed capacity of 1,763 MW and a transmission system that serves the whole province. NLH also supplies remote regions, Labrador and large industrial customers. Aside from Newfoundland and Labrador Hydro, Nalcor Energy operates generating facilities with an installed capacity in excess of 7,200 MW.

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## **TORONTO HYDRO HYDRO OTTAWA**

Toronto, Ontario  
Ottawa, Ontario

A subsidiary of Hydro Ottawa Holding, whose sole shareholder is the City of Ottawa, Hydro Ottawa serves more than 324,000 customers. Toronto Hydro-Electric System is a subsidiary of city-owned Toronto Hydro Corporation and serves about 761,000 customers, or 19% of Ontario electricity consumers.

In Ontario, the wholesale and retail markets have been open to competition since May 2002. Electricity generation is the responsibility of Ontario Power Generation, while transmission service is supplied by Hydro One.

Following the adoption of the *Electricity Restructuring Act* in December 2004, the Ontario Energy Board was given the mandate to regulate electricity supply cost and has produced a plan in this regard (Regulated Price Plan or RPP). Prices have been reviewed on May 1 each year since 2006 and adjusted six months later, if necessary. With advanced metering, the vast majority of residential customers are now billed according to a time-of-use rate. In recent years, Ontario consumers have seen their electricity bills increase significantly. In 2017, this led the Ontario government to propose measures to reduce electricity bills by 25% for residential and agricultural customers, as well as small businesses.

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## **BC HYDRO**

Vancouver, British Columbia

BC Hydro, a provincial Crown corporation, operates generating facilities with a total capacity of more than 12,000 MW. About 98% of electricity is generated using waterpower. The utility distributes electricity to about 1.9 million customers.

The wholesale market in British Columbia is open to competition, as is the retail market for some large industrial companies. When the market was opened up, generation, transmission and distribution were made into separate entities. The *Clean Energy Act* grouped transmission and distribution in July 2010 to ensure coordinated supply planning for the province. In November 2013, the government published a 10-year plan which provides for upgrading aging infrastructure, implementing new generation projects to meet growing demand and minimizing the impact of these activities on electricity rates.

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## **MANITOBA HYDRO**

Winnipeg, Manitoba

Manitoba Hydro is a Crown utility serving nearly 568,000 customers throughout the province. Virtually all the electricity it generates and distributes comes from its 15 hydropower plants, which have a total capacity of 5,690 MW.

The wholesale electricity market has been open to competition since 1997 and Manitoba Hydro joined Midwest ISO, a regional transmission organization, in 2001.

## **AMERICAN UTILITIES**

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### **EVERSOURCE ENERGY**

Boston, Massachusetts

Eversource, a merger between NSTAR Electric & Gas and Northeast Utilities, serves 3.6 million residential, commercial and industrial customers in the states of Massachusetts, Connecticut and New Hampshire. The utility purchases electricity on the market and concentrates on transmission and distribution.

Since March 1, 2005, the basic service rates are applied to customers who have chosen not to purchase electricity from a competitor. These rates are adjusted every six months, or every three months in the case of large industrial customers. The rates reflect the average market price of electricity.

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### **COMMONWEALTH EDISON (ComEd)**

Chicago, Illinois

ComEd, a subsidiary of Exelon Corporation, purchases, transmits and distributes electricity on the wholesale and retail markets. On the retail market, it serves more than 3.8 million customers in northern Illinois, or about 70% of the state's population.

Since May 1, 2002, the retail market has been fully open for residential, commercial and industrial customers. However, it is only since 2011 that residential customers have actually exercised their right to choose distributors other than the two companies that were in place when deregulation was implemented: ComEd and Ameren.

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### **DTE ELECTRIC**

Detroit, Michigan

DTE Electric operates generating facilities with a total installed capacity of nearly 11,100 MW. A subsidiary of DTE Energy, it serves 2.2 million customers in southeastern Michigan.

Under the June 2000 legislation that restructured the electricity industry, all retail market customers in Michigan have been able to choose their electricity supplier since January 1, 2002.



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## **CENTERPOINT ENERGY**

Houston, Texas

CenterPoint Energy concentrates on electricity transmission and distribution and delivering natural gas. It sells electricity to 2.3 million customers in the metropolitan Houston area.

The majority of Texas consumers have had access to an open retail market since January 1, 2002. As of January 2007, electricity distributors with effective monopolies are no longer obliged to maintain their rates above the “price to beat” designed to encourage new market entrants. Customers who have opted to continue doing business with the same distributor pay a monthly rate that varies according to the market price.

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## **FLORIDA POWER AND LIGHT (FPL)**

Miami, Florida

FPL’s vast transmission and distribution system supplies about 4.9 million customers. A subsidiary of NextEra Energy, the utility operates generating facilities with an installed capacity of 45,900 MW.

On April 1, 2010, FPL released its 2010–2019 strategic plan, in which it proposes to upgrade some of its nuclear plants and add new generating facilities using thermal and renewable energy. It will also rely on energy efficiency measures to meet the demand for power during the strategic plan time frame. In April 2016, FPL submitted its Ten Year Power Plant Site Plan for the years 2016–2025 in which it maintains its commitment to modernize its generating stations.

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## **NASHVILLE ELECTRIC SERVICE**

Nashville, Tennessee

Nashville Electric Service, whose sole shareholder is the City of Nashville, distributes the electricity that it purchases from the Tennessee Valley Authority (TVA) to more than 380,000 customers. Serving seven states, this federal agency supplies 154 distributors and nearly 58 large industrial and federal customers.

Close to 24% of the electricity produced by the TVA comes from its 8 coal-fired plants, with the rest from gas, nuclear and hydro plants. Over the years, the company has proceeded to the decommissioning of some of its most polluting coal-fired plants, and has integrated renewable energy sources such as solar, wind, and biomass.

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## **CONSOLIDATED EDISON (ConEd)**

New York, New York

ConEd of New York delivers electricity to 3.4 million customers and natural gas to about 1.1 million customers in and around New York City and Westchester County. This ConEd subsidiary operates one of the largest underground systems in the world, which represents 74% of its distribution system.

When the electricity market was opened to competition in 1998, ConEd had to dispose of a large part of its generating capacity, which is now limited to about 700 MW. Rates, which continue to be regulated by the New York State Public Service Commission, are adjusted monthly to reflect the market price of electricity.

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## **PACIFIC POWER AND LIGHT**

Portland, Oregon

Pacific Power and Light, a subsidiary of PacifiCorp, serves about 740,000 customers across three states, including more than 574,000 in Oregon. PacifiCorp operates generating facilities with an installed capacity of about 10,900 MW.

On March 1, 2002, the Oregon state government opened its retail market to competition for large commercial and industrial customers. Residential and small commercial customers have fewer suppliers to choose from, but they do have a range of options, including market-based rates, regulated rates or rates applicable to green energy.

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## **PACIFIC GAS AND ELECTRIC (PG&E)**

San Francisco, California

Pacific Gas and Electric concentrates on the transmission and distribution of electricity and natural gas. A subsidiary of PG&E Corporation, it has 5.4 million electric customer accounts.

In 2001, California adopted emergency measures to mitigate the price volatility that followed the opening of the electricity market. Those measures allowed it to reinstate regulatory authority over production costs and to give responsibility for electricity purchases to the California Department of Water and Resources. Since January 1, 2003, PG&E has been authorized to again purchase energy and directly supply its customers.

In 2017, PG&E undertook a rate reform to simplify the structure of residential electricity rates.

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## **SEATTLE CITY LIGHT**

Seattle, Washington

Seattle City Light, whose shareholder is the City of Seattle, serves about 423,000 customers in the city of Seattle and certain surrounding communities. It produces a little over 40% of the electricity it needs and purchases the rest from the Bonneville Power Administration (BPA), a northwestern U.S. federal agency that wholesales electricity produced by some 30 hydropower stations.

Six electric utilities in the Pacific Northwestern states, including Seattle City Light and BPA, got together in early 2006 to form the nonprofit ColumbiaGrid. The group's objective is to develop an integrated approach to the use and expansion of the region's interconnected transmission system.

**Sources:**

Annual reports and Web sites of the Canadian and American utilities in the study.



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