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## **Electricity Prices in Canada 2020**

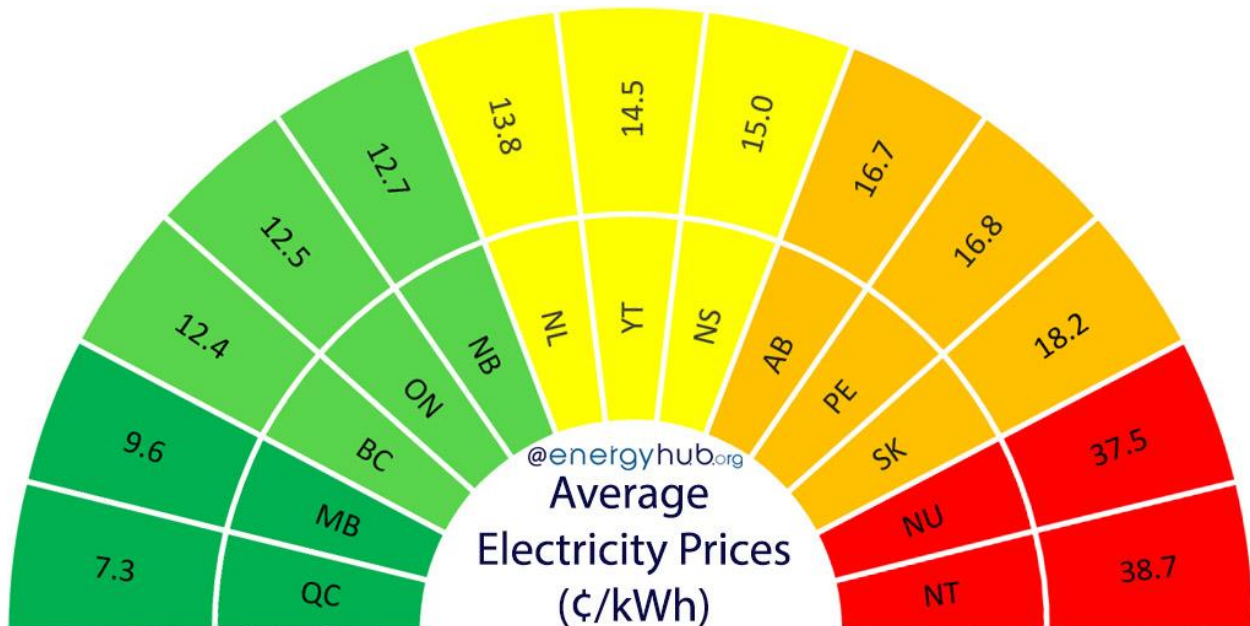
**Rylan Urban, founder**

**February 14<sup>th</sup>, 2020**

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# Electricity Prices in Canada 2020



## Average Electricity Prices

The average residential price of electricity in Canada is \$0.174 per kWh. This price includes both fixed and variable costs, and is based on an average monthly consumption of 1000 kWh. The average price decreases to \$0.135 if you exclude the territories.

Québec has the cheapest electricity prices in all of Canada (\$0.073/kWh), while the Northwest Territories has the most expensive electricity prices (\$0.387/kWh).

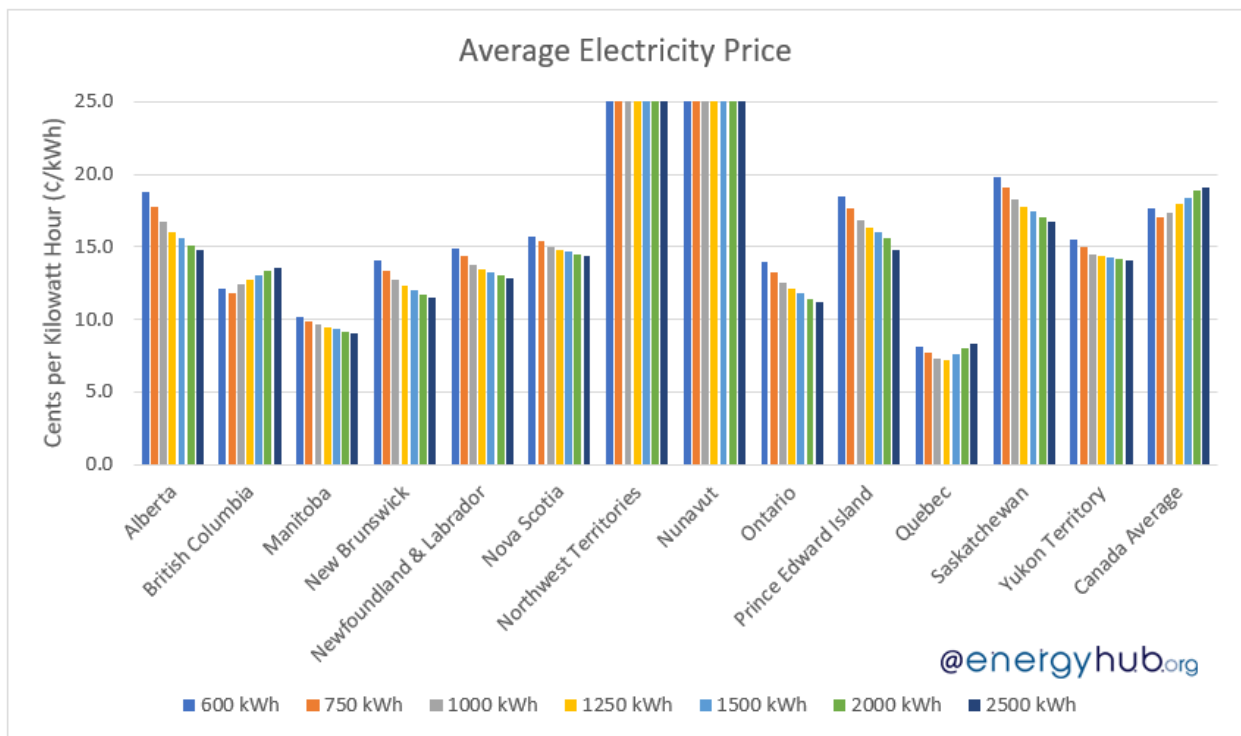
The tables below show how average electricity prices change based on the amount of electricity that is consumed each month.

See the [Methodology](#) and [Data Sources](#) sections for more details.

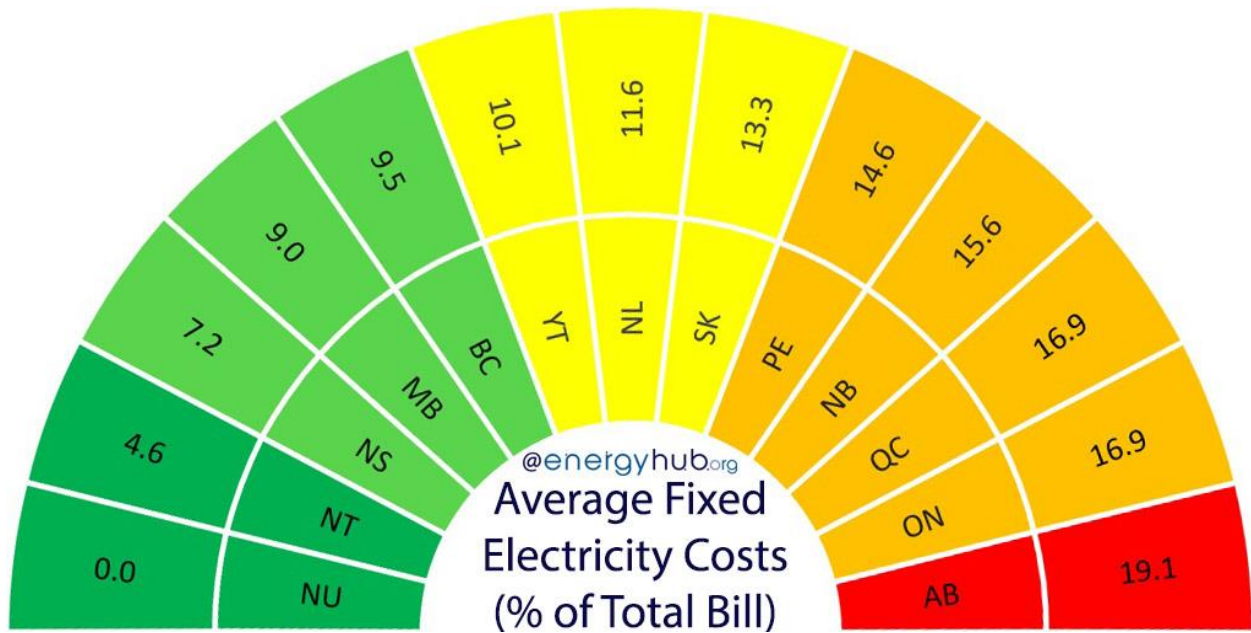
## Average Electricity Prices (¢/kWh)

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Monthly Electricity Consumption	600 kWh	750 kWh	1000 kWh	1250 kWh	1500 kWh	2000 kWh	2500 kWh
Alberta	18.8	17.8	16.7	16.1	15.6	15.1	14.8
British Columbia	12.1	11.8	12.4	12.8	13.0	13.3	13.5
Manitoba	10.2	9.9	9.6	9.4	9.3	9.2	9.1
New Brunswick	14.0	13.4	12.7	12.3	12.0	11.7	11.5
Newfoundland & Labrador	14.9	14.3	13.8	13.5	13.3	13.0	12.8
Nova Scotia	15.7	15.3	15.0	14.8	14.6	14.4	14.3
Northwest Territories	38.2	37.6	38.7	39.7	40.4	41.3	41.8
Nunavut	29.3	29.3	37.5	46.9	53.1	60.9	65.6
Ontario	13.9	13.2	12.5	12.1	11.8	11.4	11.2
Prince Edward Island	18.5	17.6	16.8	16.3	16.0	15.6	14.8
Quebec	8.1	7.7	7.3	7.2	7.6	8.0	8.3
Saskatchewan	19.8	19.0	18.2	17.7	17.4	17.0	16.8
Yukon Territory	15.5	15.0	14.5	14.3	14.2	14.1	14.0
Canada Average	17.6	17.1	17.4	17.9	18.3	18.9	19.1



## Average Fixed Electricity Costs



The average fixed cost of electricity in Canada equals 11% of the total monthly electricity bill, assuming an average monthly consumption of 1000 kWh.

We calculate this number because of its importance to distributed energy generation, efficiency, and conservation programs. The higher the proportion of fixed costs – the less of an incentive there is to save energy!

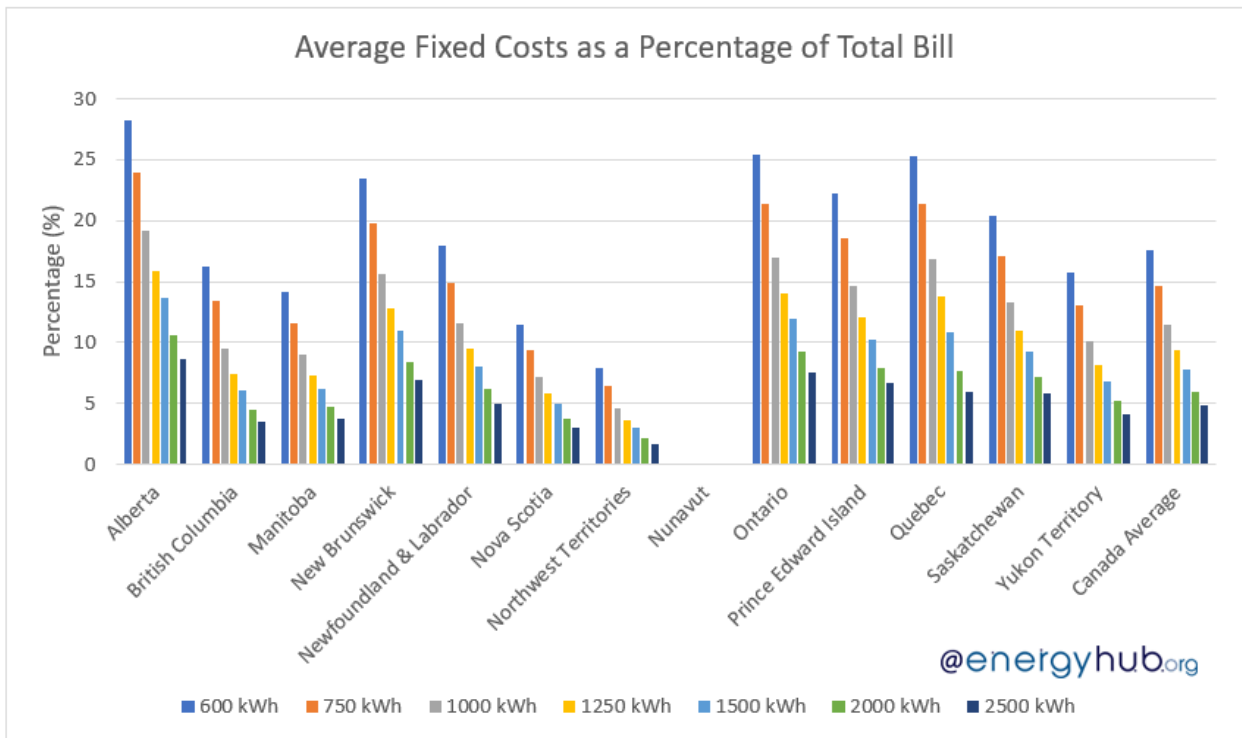
For example, reducing your electricity bill from 1,500 kWh to 750 kWh per month will save you 48% on your electricity bill in Nova Scotia, but only 43% in Alberta!

(We recognized that tiered and time of use rates provide an alternate incentive to reduce consumption, and we account for this in our [Provincial Solar Energy Rankings](#).)

## Average Fixed Costs as a Percentage of Total Bill (%)

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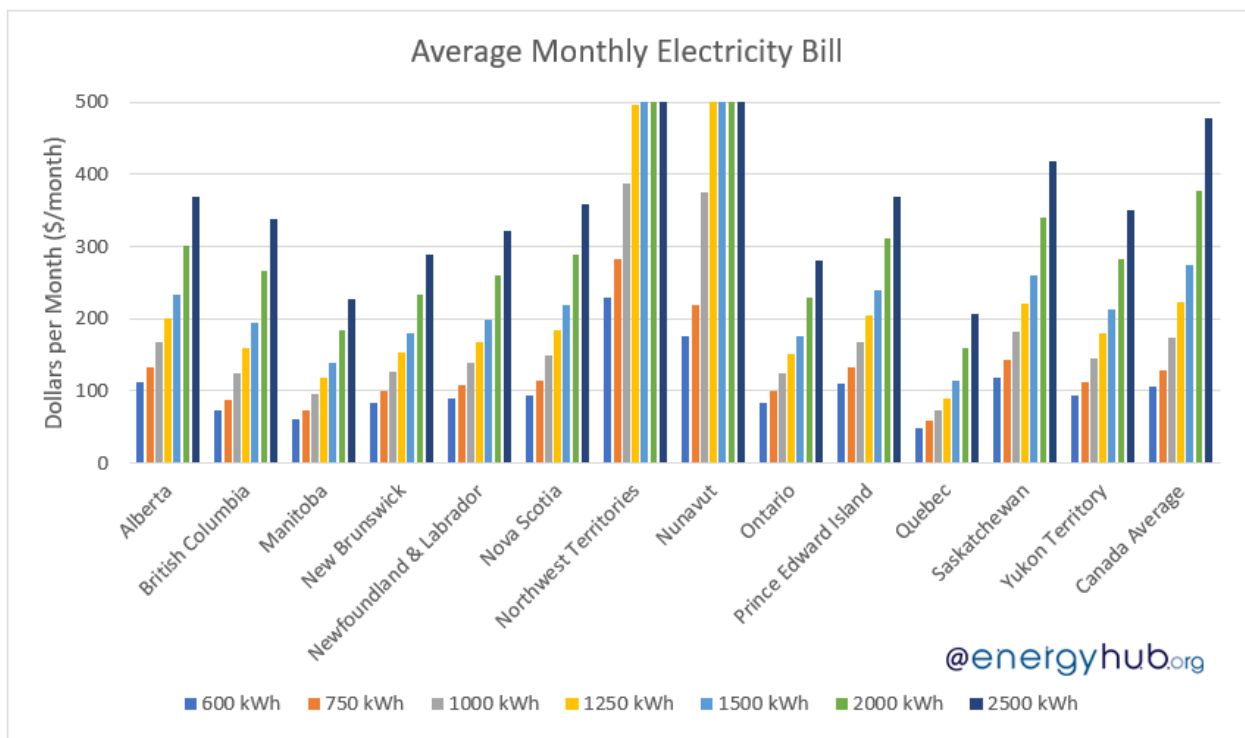
Monthly Electricity Consumption	600 kWh	750 kWh	1000 kWh	1250 kWh	1500 kWh	2000 kWh	2500 kWh
Alberta	28	24	19	16	14	11	9
British Columbia	16	13	10	7	6	4	4
Manitoba	14	12	9	7	6	5	4
New Brunswick	24	20	16	13	11	8	7
Newfoundland & Labrador	18	15	12	9	8	6	5
Nova Scotia	11	9	7	6	5	4	3
Northwest Territories	8	6	5	4	3	2	2
Nunavut	0	0	0	0	0	0	0
Ontario	25	21	17	14	12	9	8
Prince Edward Island	22	19	15	12	10	8	7
Quebec	25	21	17	14	11	8	6
Saskatchewan	20	17	13	11	9	7	6
Yukon Territory	16	13	10	8	7	5	4
Canada Average	18	15	11	9	8	6	5



## Average Monthly Electricity Bill (\$/month)

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Monthly Electricity Consumption	600 kWh	750 kWh	1000 kWh	1250 kWh	1500 kWh	2000 kWh	2500 kWh
Alberta	113	133	167	201	234	302	369
British Columbia	73	88	124	159	195	266	338
Manitoba	61	74	96	118	140	183	227
New Brunswick	84	100	127	154	181	234	288
Newfoundland & Labrador	89	107	138	169	199	260	321
Nova Scotia	94	115	150	185	219	289	358
Northwest Territories	229	282	387	497	606	825	1044
Nunavut	176	220	375	586	797	1219	1640
Ontario	83	99	125	151	177	229	281
Prince Edward Island	111	132	168	204	240	312	369
Quebec	49	58	73	90	113	160	207
Saskatchewan	119	143	182	222	261	340	419
Yukon Territory	93	112	145	179	214	282	351
Canada Average	106	128	174	224	275	377	478



# Methodology

## Intro

Calculating average provincial electricity prices is a challenging task given the wide variation in market and rate structures across the country. For example, 6 provinces use predominantly tiered electricity rates that either increase ([BC](#), [NT](#), [NU](#), [QC](#), [YT](#)) or decrease ([PE](#)) as a function of electricity usage, 6 use predominantly flat rates ([AB](#), [MB](#), [NB](#), [NL](#), [NS](#), [SK](#)), and 1 uses predominantly time-of-use rates ([ON](#)).

Additionally, the majority of provinces have a meaningful portion of their population served by at least 2 utility companies (AB, BC, NB, NL, NT, ON, SK), meaning that rates, riders, and tier thresholds often vary by location.

The prices presented on this page reflect our modelled calculations based on publicly available rate data, and are accurate as of February 14th, 2020.

## Electricity Bill Calculations

Electricity bills were calculated based on the total price charged to consumers, exclusive of sales tax. This includes basic monthly and variable energy charges, as well as appropriate riders, fees, adjustments and provincial rebates (NT, NU, ON). All provincial rates apply to the urban-residential rate class (or equivalent, specifics given in provincial sections below). All territorial rates also include rural and thermal rate classes to reflect the high proportion of communities living under these conditions.

Only utility companies serving a material proportion of the provincial or territorial population were considered. Both simple and weighted averages were used, depending on the relative proportion of people served by each utility. Only base rate structures were used, special and optional programs (clean energy, long-term, fixed-rate) were not considered.

## Data Validation

Our findings are closely corroborated by [Hydro-Québec's 2019 electricity price study](#). Our final calculated prices vary from 's results by 0-11%. Of course, some variation is expected given the time (February 2020 v April 2019) and coverage (provincial average v single city) differences between our studies.

For example, Alberta recently eliminated its regulated energy rate cap (contributing partially to our higher calculated prices) and Nova Scotia recently updated its fuel adjustment mechanism (contributing partially to our lower calculated prices). In many cases, the difference is simply explained by the fact that we used rates from multiple provincial utilities (MPUs) in our calculations.



energyhub.org Study (Feb 2020)		Quebec Hydro Study (Apr 2019)		Variation	
Jurisdiction	Average Price (\$/1000kWh)	Jurisdiction(s)	Average Price (\$/1000kWh)	Percent Difference (%)	Main Explanatory Variable(s)
Alberta	167	Calgary & Edmonton	152	9	Δ Regulated Rate Cap, MPUs
British Columbia	124	Vancouver	116	6	MPUs
Manitoba	96	Winnipeg	94	2	N/A
New Brunswick	127	Moncton	131	-3	MPUs
Newfoundland & Labrador	138	St. John's	128	8	Δ Energy Rates, MPUs
Nova Scotia	150	Halifax	167	-11	Δ Fuel Adjustment Mechanism
Ontario	125	Ottawa & Toronto	130	-4	Δ Ontario Electricity Rebate, MPUs
Prince Edward Island	168	Charlottetown	168	0	N/A
Quebec	73	Montreal	73	0	N/A
Saskatchewan	182	Regina	165	10	MPUs
Average	135	Average	132	2	N/A @energyhub.org

$\Delta$  = “change in”, MPU = “Multiple Provincial Utilities”, N/A = “not applicable” or, in the case of Manitoba, “not available”.

## Data Sources

### Alberta

The average residential cost of electricity in Alberta is \$0.167 per kWh, or \$167 per month, assuming an average monthly usage of 1,000 kWh.

Our model is based on rate data published by the [Alberta Utilities Commission](#). The retail energy rate was calculated using a simple average of all monthly regulated rates (un-capped) in the previous 9 months for Direct Energy, ENMAX Energy, and EPCOR Energy.

Average administrative charges for the residential rate class were calculated based on data available for Direct Energy, ENMAX, and EPCOR. Average distribution and transmission fees for the residential rate class were calculated based on Atco Electric, ENMAX, EPCOR, and Fortis Alberta. Appropriate adjustments for [rate riders](#), [local access fees](#), and [the federal carbon charge](#) were also made.

### British Columbia

The average residential cost of electricity in British Columbia is \$0.124 per kWh, or \$124 per month, assuming an average monthly usage of 1,000 kWh.

We used the tiered residential rates from [BC Hydro](#) and [Fortis BC](#) to calculate prices in BC. Both utilities bill on a 60-day period, so fixed customer charges and tier thresholds were divided by 2 to arrive at monthly numbers. Each utility was weighted equally.

## **Manitoba**

The average residential cost of electricity in Manitoba is \$0.096 per kWh, or \$96 per month, assuming an average monthly usage of 1,000 kWh.

For our calculations, we used the standard residential rate data published by [Manitoba Hydro](#).

## **New Brunswick**

The average residential cost of electricity in New Brunswick is \$0.127 per kWh, or \$127 per month, assuming an average monthly usage of 1,000 kWh.

To calculate electricity rates in New Brunswick, we used the average urban residential rates published by [NB Power](#) and [Saint John Energy](#). Each utility was weighted equally.

## **Newfoundland & Labrador**

The average residential cost of electricity in Newfoundland and Labrador is \$0.138 per kWh, or \$138 per month, assuming an average monthly usage of 1,000 kWh.

We used the residential rates published by [Newfoundland Power](#) and [Newfoundland Labrador Hydro](#) in our calculations. Each utility was weighted equally.

## **Nova Scotia**

The average residential cost of electricity in Nova Scotia is \$0.150 per kWh, or \$150 per month, assuming an average monthly usage of 1,000 kWh.

All data came from domestic rates published by [Nova Scotia Power](#), the [Fuel Adjustment Mechanism](#) was also taken into account.

## **Northwest Territories**

The average cost of electricity in Northwest Territories is \$0.387 per kWh, or \$387 per month, assuming an average monthly usage of 1,000 kWh.

To calculate rates in the Northwest Territories, we used a weighted average of price data published by the [Northwest Territories Power Corporation](#) and [Northland Utilities](#). To account for the [Territorial Power Support Program](#), our model effectively uses tiered pricing with a threshold of 800kWh per month (the average of the two seasonal allowances). Appropriate adjustment riders were accounted for. Both hydro and thermal rates were used.

## **Nunavut**

The average cost of electricity in Nunavut is \$0.375 per kWh, or \$375 per month, assuming an average monthly usage of 1,000 kWh.

Our calculations used an average of all community prices published by [Qulliq Energy Corporation](#), and take into account the [Nunavut Electricity Subsidy](#). The subsidy threshold was averaged between the two seasons.

## **Ontario**

The average cost of electricity in Ontario is \$0.125 per kWh, or \$125 per month, assuming an average monthly usage of 1,000 kWh.

Our model uses the time-of-use rates published by the [Ontario Energy Board](#) and assumes that 64% of consumption happens off-peak, 18% mid-peak, and 18% on-peak. We also take into account the updated [Ontario Electricity Rebate](#).

Variable delivery and regulatory charges are based on the [OEB Bill Calculator](#) and averaged across Alectra Utilities, Atikokan Hydro, Centre Wellington Hydro, Hydro One, London Hydro, Niagra-on-the-Lake Hydro, Hydro Ottawa, Toronto Hydro, Vanderidian Connections, and Wasaga Distribution.

## **Prince Edward Island**

The average cost of electricity in Prince Edward Island is \$0.168 per kWh, or \$168 per month, assuming an average monthly usage of 1,000 kWh.

For our calculations, we used the tiered residential urban rates published by [Maritime Electric](#).

## **Québec**

The average cost of electricity in Québec is \$0.073 per kWh, or \$73 per month, assuming an average monthly usage of 1,000 kWh.

The tiered residential rates published by [Hydro-Québec](#) were used for our calculations. We assumed uniform daily usage.

## **Saskatchewan**

The average cost of electricity in Saskatchewan is \$0.182 per kWh, or \$182 per month, assuming an average monthly usage of 1,000 kWh.

There are three major utility companies that serve electricity in Saskatchewan: [Saskpower](#), [Saskatoon Light and Power](#), and [Swift Current Light and Power](#). Rates vary slightly by utility

and in our calculations, we took the average of all three. The ‘standard city residential’ rate class was used.

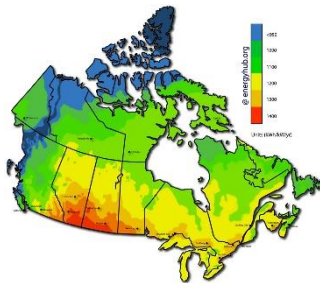
## Yukon Territory

The average cost of electricity in the Yukon Territory is \$0.145 per kWh, or \$145 per month, assuming an average monthly usage of 1,000 kWh.

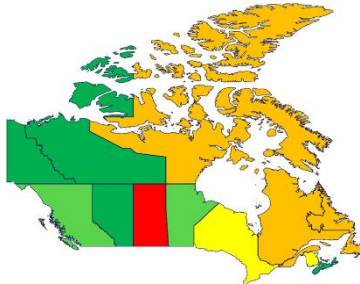
For our calculations, we used the rates and riders published by [Yukon Energy](#) and [Atco Electric Yukon](#), excluding the rates for Old Crow. All three price tiers were used in our model.

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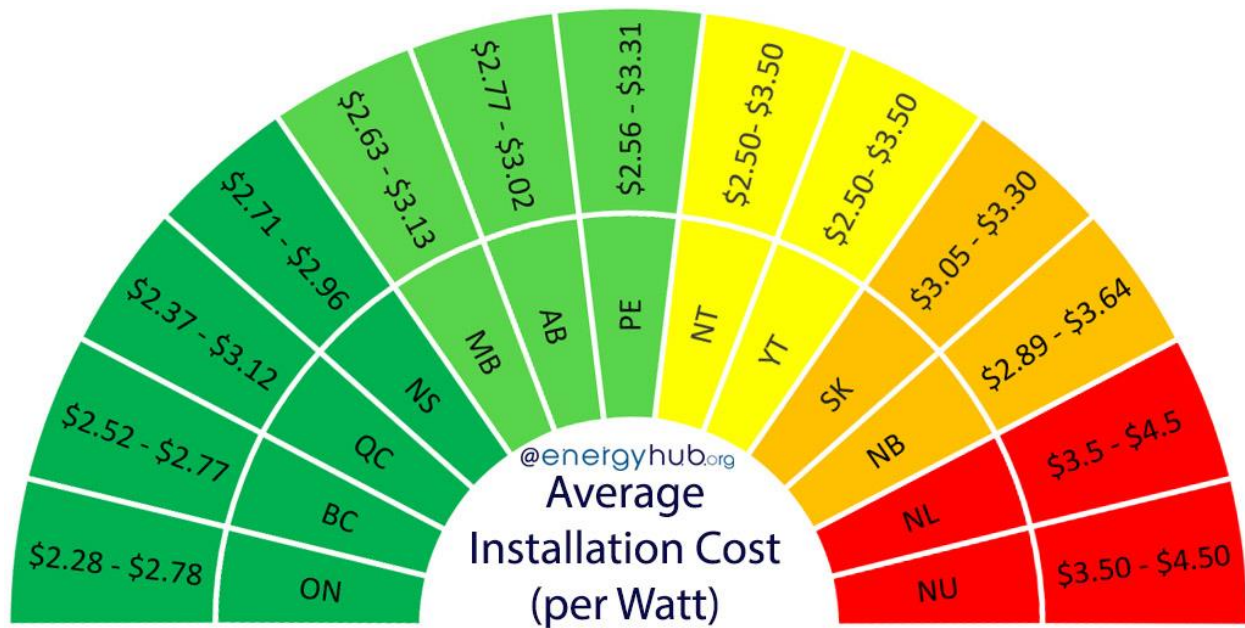
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