



Projected BC Hydro RS1101 Step 2 Rates for Financial Analysis

11-Dec-18

Notes:

1. This projection is based on the BC Hydro residential rate structure depicted on the attached page
2. This projection is approximate and actual annual rates are expected to vary somewhat from those listed here
3. The rate figures presented here are suitable for performing financial sensitivity analysis for a project
4. BC Hydro previously announced rate increases to 2018 are assumed in the figures below
5. BC Hydro rate increases beyond 2018 are assumed in three scenarios:
 - Low - 2.5%/year - equal to BC CPI for electricity 1994 to 2016
 - Mid - 4%/year - BCH rate increases have averaged 4%/yr from 2005 - 2016 according to BC CPI
 - High - 5%/year BCH actual (per Hydro Quebec) + 1% Site C project overrun allowance = 6%/year
6. See attached for BC CPI data, Hydro Quebec data and large-hydro project cost overrun information
7. Rates below calculated based on average monthly consumption in excess of 675 kWh (i.e. based on step 2 rate only)
8. Rates below include the rate rider fee but do not include the basic daily charge or tax

Projected BC Hydro Residential Step 2 Rates (\$/kWh)

Year	Rate Increase Scenario		
	Low	Mid	High
2017	\$ 0.1351	\$ 0.1351	\$ 0.1351
2018	\$ 0.1391	\$ 0.1391	\$ 0.1391
2019	\$ 0.1426	\$ 0.1447	\$ 0.1475
2020	\$ 0.1462	\$ 0.1505	\$ 0.1563
2021	\$ 0.1498	\$ 0.1565	\$ 0.1657
2022	\$ 0.1536	\$ 0.1628	\$ 0.1757
2023	\$ 0.1574	\$ 0.1693	\$ 0.1862
2024	\$ 0.1614	\$ 0.1761	\$ 0.1974
2025	\$ 0.1654	\$ 0.1831	\$ 0.2092
2026	\$ 0.1695	\$ 0.1904	\$ 0.2218
2027	\$ 0.1738	\$ 0.1980	\$ 0.2351
2028	\$ 0.1781	\$ 0.2060	\$ 0.2492
2029	\$ 0.1826	\$ 0.2142	\$ 0.2641
2030	\$ 0.1871	\$ 0.2228	\$ 0.2800
2031	\$ 0.1918	\$ 0.2317	\$ 0.2968
2032	\$ 0.1966	\$ 0.2409	\$ 0.3146
2033	\$ 0.2015	\$ 0.2506	\$ 0.3334
2034	\$ 0.2065	\$ 0.2606	\$ 0.3535
2035	\$ 0.2117	\$ 0.2710	\$ 0.3747
2036	\$ 0.2170	\$ 0.2819	\$ 0.3971
2037	\$ 0.2224	\$ 0.2931	\$ 0.4210
2038	\$ 0.2280	\$ 0.3049	\$ 0.4462
2039	\$ 0.2337	\$ 0.3171	\$ 0.4730
2040	\$ 0.2395	\$ 0.3297	\$ 0.5014
2041	\$ 0.2455	\$ 0.3429	\$ 0.5315
2042	\$ 0.2517	\$ 0.3566	\$ 0.5634
2043	\$ 0.2579	\$ 0.3709	\$ 0.5972

RS1101 Residential Conservation Rate

Conservation Rate receive service under rate schedule 1101 of the Electric Tariff. Customers are charged one rate for electricity up to a certain threshold in each billing period, and a higher rate for all electricity use beyond that threshold. This "stepped" rate is designed to encourage conservation.

Basic Charge	
A small, daily charge that partially covers the fixed cost of services for things such as metering and billing.	\$0.1899 per day.
Energy Charge - Step 1 - for first 1,350 kWh in an average two month billing period	\$0.0858 per kWh.
Energy Charge - Step 2 - everything over Step 1 threshold	\$0.1287 per kWh.
Minimum Charge	
A charge that covers the costs of maintaining our equipment during the winter for customers with high electricity usage in the winter but low electricity usage in summer.	\$0.1899 per day. Equal to Basic Charge.
Rate Rider	
The Rate Rider covers additional and unpredictable energy costs resulting from, for example, low water inflows or higher-than-forecast market prices.	5% Rate Rider applied to all charges before taxes and levies.

BC Consumer Price Index

Historical Changes in BC Electricity Rates

1994 - 2004 Avg. Annual Increase %:	0.9
1994 - 2016 Avg. Annual Increase %:	2.5
2005 - 2016 Avg. Annual Increase %:	4.0

Year	CPI % Change From Previous Year
1994	2.6
1995	-3.6
1996	1.7
1997	0.6
1998	-0.8
1999	1
2000	0.1
2001	-13.1
2002	15.7
2003	0.6
2004	5
2005	0
2006	2.2
2007	0.2
2008	3.1
2009	-0.9
2010	10.6
2011	5.7
2012	7.4
2013	1.9
2014	6.6
2015	6.5
2016	4.4

British Columbia Consumer Price Index, Annual Averages, Selected Items (1992=100)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
ALL-ITEMS	105.5	107.9	108.9	109.7	110.0	111.2	113.3	115.2	117.9	120.4	122.8	125.3	127.5
<i>% change from previous year</i>	1.9	2.3	0.9	0.7	0.3	1.1	1.9	1.7	2.3	2.1	2.0	2.0	1.8
Food	104.2	107.3	108.1	110.8	112.5	113.6	113.0	117.4	120.6	122.8	124.4	126.0	128.4
<i>% change from previous year</i>	1.2	3.0	0.7	2.5	1.5	1.0	-0.5	3.9	2.7	1.8	1.3	1.3	1.9
Shelter	104.0	103.9	102.0	100.5	98.6	98.1	99.6	101.2	101.9	103.7	105.9	108.2	110.8
<i>% change from previous year</i>	0.8	-0.1	-1.8	-1.5	-1.9	-0.5	1.5	1.6	0.7	1.8	2.1	2.2	2.4
Rented Accommodation	104.4	106.1	107.8	109.0	109.7	110.2	110.7	111.9	113.5	114.7	115.8	116.2	116.7
<i>% change from previous year</i>	2.0	1.6	1.6	1.1	0.6	0.5	0.5	1.1	1.4	1.1	1.0	0.3	0.4
Owned Accommodation	102.5	101.7	98.1	94.3	91.0	89.0	89.0	89.7	89.7	91.3	93.3	95.6	98.5
<i>% change from previous year</i>	-0.9	-0.8	-3.5	-3.9	-3.5	-2.2	0.0	0.8	0.0	1.8	2.2	2.5	3.0
Household Operations & Furnishings	103.8	106.4	108.6	110.0	113.9	115.5	116.9	118.0	121.0	122.3	122.9	123.7	123.4
<i>% change from previous year</i>	1.1	2.5	2.1	1.3	3.5	1.4	1.2	0.9	2.5	1.1	0.5	0.7	-0.2
Clothing & Footwear	104.4	105.2	105.1	107.0	108.9	110.1	112.1	112.6	112.6	111.4	112.0	112.5	112.5
<i>% change from previous year</i>	2.4	0.8	-0.1	1.8	1.8	1.1	1.8	0.4	0.0	-1.1	0.5	0.4	0.0
Transportation	110.9	116.1	119.8	120.9	119.4	123.3	130.0	130.5	135.0	139.3	143.2	149.1	154.2
<i>% change from previous year</i>	5.3	4.7	3.2	0.9	-1.2	3.3	5.4	0.4	3.4	3.2	2.8	4.1	3.4
Health & Personal Care	106.5	107.1	107.9	109.5	112.1	114.9	116.7	119.7	121.9	122.8	125.0	127.7	129.7
<i>% change from previous year</i>	2.9	0.6	0.7	1.5	2.4	2.5	1.6	2.6	1.8	0.7	1.8	2.2	1.6
Recreation, Education & Reading	107.1	112.9	115.8	117.2	118.1	119.1	121.2	122.6	124.7	129.0	132.3	134.0	134.0
<i>% change from previous year</i>	3.9	5.4	2.6	1.2	0.8	0.8	1.8	1.2	1.7	3.4	2.6	1.3	0.0
Tuition	113.9	122.3	127.5	130.4	134.4	136.9	138.9	139.3	149.2	183.6	222.4	243.2	249.4
<i>% change from previous year</i>	9.8	7.4	4.3	2.3	3.1	1.9	1.5	0.3	7.1	23.1	21.1	9.4	2.5
Alcoholic Beverages & Tobacco Prods	101.8	102.7	104.6	107.2	108.6	109.1	109.7	112.3	126.7	136.0	142.9	144.7	146.9
<i>% change from previous year</i>	-2.5	0.9	1.9	2.5	1.3	0.5	0.5	2.4	12.8	7.3	5.1	1.3	1.5
Cigarettes	94.1	94.2	95.4	97.9	99.2	100.5	101.7	104.9	131.7	151.3	160.2	162.0	164.3
<i>% change from previous year</i>	-9.7	0.1	1.3	2.6	1.3	1.3	1.2	3.1	25.5	14.9	5.9	1.1	1.4
Energy	105.5	107.4	109.1	110.8	103.7	110.4	130.8	134.3	135.9	144.9	155.3	167.4	175.3
<i>% change from previous year</i>	3.3	1.8	1.6	1.6	-6.4	6.5	18.5	2.7	1.2	6.6	7.2	7.8	4.7
Electricity	106.8	103.0	104.8	105.4	104.6	105.6	105.7	91.9	106.3	106.9	112.2	112.2	114.7
<i>% change from previous year</i>	2.6	-3.6	1.7	0.6	-0.8	1.0	0.1	-13.1	15.7	0.6	5.0	0.0	2.2
Piped Gas	112.1	110.6	103.5	114.5	116.7	129.4	167.4	222.9	198.6	223.7	219.8	236.2	239.7
<i>% change from previous year</i>	7.6	-1.3	-6.4	10.6	1.9	10.9	29.4	33.2	-10.9	12.6	-1.7	7.5	1.5
Fuel Oil & Other Fuel	101.8	102.7	106.7	112.5	103.8	106.6	137.6	141.0	131.6	151.0	170.0	213.7	220.1
<i>% change from previous year</i>	0.4	0.9	3.9	5.4	-7.7	2.7	29.1	2.5	-6.7	14.7	12.6	25.7	3.0
Motor Gasoline	102.6	108.0	111.6	111.3	98.5	107.3	134.3	134.3	135.7	148.4	164.2	184.3	197.1
<i>% change from previous year</i>	2.2	5.3	3.3	-0.3	-11.5	8.9	25.2	0.0	1.0	9.4	10.6	12.2	6.9
All-Items Excluding Food	105.9	108.1	109.1	109.5	109.5	110.7	113.4	114.7	117.3	119.9	122.5	125.1	127.2
<i>% change from previous year</i>	2.2	2.1	0.9	0.4	0.0	1.1	2.4	1.1	2.3	2.2	2.2	2.1	1.7
All-Items Excluding Alcohol & Tobacco	105.8	108.3	109.2	110.0	108.2	109.4	111.5	113.3	115.5	117.8	120.0	122.4	124.6
<i>% change from previous year</i>	2.3	2.4	0.8	0.7	-1.6	1.1	1.9	1.6	1.9	2.0	1.9	2.0	1.8
All-Items Excluding Food & Energy	105.9	108.2	109.1	109.5	110.1	110.8	111.9	113.0	115.7	117.8	119.8	121.6	123.3
<i>% change from previous year</i>	2.1	2.2	0.8	0.4	0.5	0.6	1.0	1.0	2.4	1.8	1.7	1.5	1.4

British Columbia Consumer Price Index, Annual Averages, Selected Items (2002=100)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
ALL-ITEMS	110.0	112.3	112.3	113.8	116.5	117.8	117.7	118.9	120.2	122.4
<i>% change from previous year</i>	1.8	2.1	0.0	1.3	2.4	1.1	-0.1	1.0	1.1	1.8
Food	109.3	112.9	117.7	119.6	124.6	127.3	127.4	129.5	134.5	136.9
<i>% change from previous year</i>	2.6	3.3	4.3	1.6	4.2	2.2	0.1	1.6	3.9	1.8
Shelter	110.9	114.3	112.3	113.1	114.3	114.2	113.3	114.2	114.1	115.7
<i>% change from previous year</i>	2.0	3.1	-1.7	0.7	1.1	-0.1	-0.8	0.8	-0.1	1.4
Rented Accommodation	104.0	106.1	107.9	109.5	110.9	112.3	113.7	114.8	116.0	117.1
<i>% change from previous year</i>	1.2	2.0	1.7	1.5	1.3	1.3	1.2	1.0	1.0	0.9
Owned Accommodation	112.8	116.0	113.1	112.1	112.6	111.2	109.0	108.5	108.0	110.1
<i>% change from previous year</i>	2.7	2.8	-2.5	-0.9	0.4	-1.2	-2.0	-0.5	-0.5	1.9
Household Operations & Furnishings	102.6	103.4	105.7	106.5	108.4	110.9	111.7	112.8	114.6	116.9
<i>% change from previous year</i>	0.6	0.8	2.2	0.8	1.8	2.3	0.7	1.0	1.6	2.0
Clothing & Footwear	99.9	99.1	99.4	98.3	97.6	100.5	101.0	101.2	103.7	104.7
<i>% change from previous year</i>	0.0	-0.8	0.3	-1.1	-0.7	3.0	0.5	0.2	2.5	1.0
Transportation	116.2	119.1	113.6	117.1	122.7	125.2	126.3	127.6	126.3	129.2
<i>% change from previous year</i>	1.8	2.5	-4.6	3.1	4.8	2.0	0.9	1.0	-1.0	2.3
Health & Personal Care	107.9	108.5	111.5	113.9	115.2	115.5	113.2	112.9	113.8	115.8
<i>% change from previous year</i>	1.4	0.6	2.8	2.2	1.1	0.3	-2.0	-0.3	0.8	1.8
Recreation, Education & Reading	109.0	109.8	111.0	112.0	113.2	113.1	112.6	113.8	116.1	119.4
<i>% change from previous year</i>	1.4	0.7	1.1	0.9	1.1	-0.1	-0.4	1.1	2.0	2.8
Tuition Fees	170.5	174.7	179.4	184.0	187.7	192.0	196.4	200.8	205.4	209.9
<i>% change from previous year</i>	2.0	2.5	2.7	2.6	2.0	2.3	2.3	2.2	2.3	2.2
Alcoholic Beverages & Tobacco Products	119.1	120.7	123.8	126.3	129.6	130.6	131.4	135.1	137.6	141.4
<i>% change from previous year</i>	2.7	1.3	2.6	2.0	2.6	0.8	0.6	2.8	1.9	2.8
Cigarettes	129.8	130.7	135.6	141.6	150.2	150.3	150.3	165.8	173.0	176.8
<i>% change from previous year</i>	4.0	0.7	3.7	4.4	6.1	0.1	0.0	10.3	4.3	2.2
Special Aggregations:										
Energy	131.4	143.9	127.6	138.2	151.7	155.2	157.5	161.9	151.6	147.3
<i>% change from previous year</i>	1.9	9.5	-11.3	8.3	9.8	2.3	1.5	2.8	-6.4	-2.8
Electricity	108.1	111.4	110.4	122.1	129.0	138.5	141.1	150.4	160.2	167.3
<i>% change from previous year</i>	0.2	3.1	-0.9	10.6	5.7	7.4	1.9	6.6	6.5	4.4
Natural Gas	118.4	126.3	115.4	118.0	112.0	107.0	108.3	115.9	101.4	88.7
<i>% change from previous year</i>	-1.8	6.7	-8.6	2.3	-5.1	-4.5	1.2	7.0	-12.5	-12.5
Fuel Oil & Other Fuel	175.9	220.3	161.8	190.5	232.0	243.6	245.0	252.1	208.7	195.3
<i>% change from previous year</i>	5.1	25.2	-26.6	17.7	21.8	5.0	0.6	2.9	-17.2	-6.4
Motor Gasoline	150.7	169.6	143.9	156.9	180.3	183.2	186.4	186.3	166.7	159.4
<i>% change from previous year</i>	3.8	12.5	-15.2	9.0	14.9	1.6	1.7	-0.1	-10.5	-4.4
All-Items Excluding Food	110.1	112.2	111.2	112.6	114.9	115.9	115.8	116.8	117.4	119.6
<i>% change from previous year</i>	1.5	1.9	-0.9	1.3	2.0	0.9	-0.1	0.9	0.5	1.9
All-Items Excluding Energy	108.4	110.0	111.1	112.0	113.9	115.0	114.9	115.9	117.8	120.4
<i>% change from previous year</i>	1.7	1.5	1.0	0.8	1.7	1.0	-0.1	0.9	1.6	2.2
All-Items Exclud. Alcohol & Tobacco	109.7	112.0	111.9	113.4	116.0	117.3	117.2	118.4	119.6	121.8
<i>% change from previous year</i>	1.8	2.1	-0.1	1.3	2.3	1.1	-0.1	1.0	1.0	1.8
All-Items Excluding Food & Energy	108.2	109.3	109.6	110.3	111.5	112.3	112.1	112.9	114.2	116.9
<i>% change from previous year</i>	1.5	1.0	0.3	0.6	1.1	0.7	-0.2	0.7	1.2	2.4

Explanatory Notes Regarding Statistics Canada's Consumer Price Index

1. The Consumer Price Index (CPI) is an indicator of the changes in consumer prices experienced by the target population. The CPI measures price change by comparing, through time, the cost of a fixed basket of commodities. This basket is based on the expenditures of the target population in a certain reference period, currently 1996. Since the basket contains commodities of unchanging or equivalent quantity and quality, the index reflects only pure price movements. Separate CPIs are published for Canada, the ten provinces, Whitehorse and Yellowknife. Some CPI information is also available for an additional sixteen cities. Since the CPI is a measure of price change from one time period to another, it cannot be used to indicate differences in price levels between provinces or cities.
2. The CPI is not a cost-of-living index, though people frequently call it this. The objective behind a cost-of-living index is to measure changes in expenditures necessary for consumers to maintain a constant standard of living. The idea is that consumers would normally switch between products as the price relationship of goods changes. If, for example, consumers get the same satisfaction from drinking tea as they do from coffee, then it is possible to substitute tea for coffee if the price of tea falls relative to the price of coffee. The cheaper of the interchangeable products may be chosen. We could compute a cost-of-living index for an individual if we had complete information about that person's taste and spending habits. To do this for a large number of people, let alone the total population of Canada, is impossible. For this reason, regularly published price indexes are based on the fixed-basket concept rather than the cost-of-living concept.
3. The Consumer Price Index (CPI) maintains fixed quantitative proportions (weights) between commodities during the life of a given basket. The baskets are updated periodically to take into account changes in consumer expenditure patterns. In January 1998, the basket reflecting the 1996 expenditure patterns replaced the 1992 basket. The continuity of the CPI series is maintained by 'linking' the corresponding indexes obtained from consecutive baskets. The CPI is calculated as a weighted average of specified commodity price indexes. The weights are derived from Family Expenditure Survey data. When reconstructing or re-aggregating published CPI series, the changes in weights and the linking procedures must be taken into account. For a description of the methodology required to reconstruct or re-aggregate CPI series, see publication 62-553 "The Consumer Price Index Reference Paper".
For concepts and definitions, see publication 62-557 "Your Guide to the Consumer Price Index".
4. The population targeted by the Consumer Price Index (CPI) consists of families and individuals living in urban and rural private households. For practical reasons, residents of the Territories outside Whitehorse and Yellowknife are not represented by the index. Previous to January 1995, the target population consisted of private households in Canadian urban centres with a population of 30,000 or more.
5. The goods and services that make up the Consumer Price Index (CPI) are organized according to a hierarchical structure with the 'All-items' index as the top level. Eight major components of goods and services make up the 'All-items' index. These eight components are broken down into a varying number of sub-groups which are in turn broken down into other sub-groups, etc.

The eight major categories are:

Food: Includes food and non-alcoholic beverages purchased from stores and restaurants.

Shelter: Includes rent, insurance premiums, maintenance & repairs, mortgage interest cost, replacement cost, property taxes, and utilities (water, fuel, electricity, natural gas).

Household Operations and Furnishings: Includes communications services, child care and domestic services, household supplies, goods and services, as well as furnishings, linens, appliances, utensils, tools, pet expenses and horticultural goods and services.

Clothing and Footwear: Includes clothing and footwear for men, women and children, as well as clothing accessories and jewellery, textiles, notions and related services.

Transportation: Includes purchase, leasing and rental of private automotive vehicles, operation expenses such as gasoline, parts/maintenance/repair, insurance premiums, fees such as registration, drivers' licences, parking. This category also includes local, commuter and inter-city public transportation (bus, taxi, subway, air and rail).

Health and Personal Care: Includes medicinal and pharmaceutical products (including prescriptions), eye care, dental care, personal care such as toiletries and cosmetics and personal care services.

Recreation, Education and Reading: Includes recreational equipment, services and supplies (sports, toys, hobbies, computers, photographic), purchase and operation of recreational vehicles, home entertainment equipment and services, travel services, and recreational services such as spectator entertainment, cablevision and the use of recreational facilities. This category also includes tuition fees, textbooks, supplies, lessons, courses and educational services, as well as newspapers, books and magazines.

Alcoholic Beverages and Tobacco Products: Includes served and purchased alcoholic beverages and tobacco products and smokers' supplies.

**Comparison of Electricity Prices in Major North American Cities - Hydro Quebec
2008 - 2018 Change in Residential Service Rate for Vancouver BC**

Notes:

1. Data from electricity price comparison reports completed annually by Hydro Quebec
2. Figures below based on residential service of 1,000 kWh/mth
3. Figures below include daily fixed charges and rate rider but do not include taxes
4. Annual increase % calculated using $F = P \cdot (1 + r/n)^{nt}$ where
 F = future value, P = principal, r = interest rate,
 n = number of compounding periods per year, nt = number of years

Year	Rate (\$/kWh)
2018	\$ 0.1142
2008	\$ 0.0698

Difference 10 \$ 0.0444

Average annual % increase:

5.05%

Average Prices on April 1, 2008

(in ¢/kWh)¹

Summary Table (excluding taxes)

		Residential	General					
			Small Power	Medium Power			Large Power	
Power demand	Consumption		40 kW	500 kW	1,000 kW	2,500 kW ²	5,000 kW ²	50,000 kW ²
	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%
Canadian Cities								
Montréal, QC	6.81	8.84	11.01	7.10	5.86		4.73	4.47
Charlottetown, PE	14.81	15.44	16.44	13.32	12.87		8.75	8.75
Edmonton, AB ⁴	13.45	13.31	13.25	12.15	11.93		10.34	9.69
Halifax, NS	11.75	11.57	12.91	9.56	8.29		7.04	7.04
Moncton, NB	11.51	11.74	12.63	10.35	10.02		6.79	6.47
Ottawa, ON	10.61	10.28	11.38	9.51	9.33		9.08	8.66
Regina, SK	10.91	8.76	11.12	8.12	6.75		6.04	5.11
St. John's, NL ⁵	10.43	10.74	10.33	7.85	7.39		6.98	3.98
Toronto, ON	11.17	10.69	12.34	9.60	9.17		8.73	8.46
Vancouver, BC	6.98	7.63	7.11	5.35	4.97		4.63	3.84
Winnipeg, MB	6.44	6.34	7.21	4.87	4.06		3.60	3.19
American Cities								
Boston, MA	19.12	20.08	21.95	17.11	16.31		14.77	14.76
Chicago, IL ⁶	11.20	10.24	13.18	11.78	11.51		11.21	8.94
Detroit, MI ⁶	11.62	11.03	10.95	8.60	7.55		6.86	6.65
Houston, TX ⁶	14.89	9.61	10.57	8.69	8.49		8.03	7.45
Miami, FL ⁶	10.26	10.49	11.19	9.12	8.66		8.27	7.51
Nashville, TN	9.45	9.84	11.98	8.55	8.29		7.59	6.46
New York, NY ⁶	21.27	21.68	23.98	18.11	16.31		15.16	15.16
Portland, OR	8.74	7.22	7.27	5.47	4.88		4.63	4.31
San Francisco, CA ⁶	18.06	15.23	16.33	12.23	8.90		8.36	8.33
Seattle, WA	6.77	5.66	5.32	4.88	4.87		4.85	4.58
AVERAGE	11.73	11.26	12.31	9.64	8.88		7.92	7.32

1) In Canadian dollars.

2) Supply voltage of 25 kV.

3) Supply voltage of 120 kV.

4) Bills corresponding to consumption levels of 250,000 kWh/year 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.

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

AVERAGE PRICES ON APRIL 1, 2018

(in ¢/kWh)¹

Summary Table (excluding taxes)

	Residential	Small Power	Medium Power			Large Power	
Power demand	1,000 kWh	40 kW 10,000 kWh	500 kW 100,000 kWh	1,000 kW 400,000 kWh	2,500 kW ² 1,170,000 kWh	5,000 kW ² 3,060,000 kWh	50,000 kW ³ 30,600,000 kWh
Consumption		35%	28%	56%	65%	85%	85%
Load factor							
Canadian Cities							
Montréal, QC	7.13	9.93	12.10	7.99	6.77	5.18	4.91
Calgary, AB	15.79	12.08	12.46	9.39	8.71	8.32	8.29
Charlottetown, PE ⁴	16.83	17.54	18.32	14.91	14.41	9.51	9.51
Edmonton, AB ⁵	14.35	13.80	15.50	10.88	10.08	8.53	6.83
Halifax, NS	16.41	15.44	17.15	12.88	12.17	10.26	10.26
Moncton, NB	12.97	13.49	14.50	11.88	11.50	7.86	7.50
Ottawa, ON	12.16	11.53	14.83	12.49	12.33	10.80	10.35
Regina, SK	16.51	13.98	16.35	12.01	10.02	8.98	7.56
St. John's, NL ⁶	12.03	11.02	11.23	8.78	8.25	7.84	5.30
Toronto, ON ⁴	13.24	12.44	15.95	12.95	12.30	10.66	10.65
Vancouver, BC	11.42	11.72	12.03	8.99	8.36	7.77	6.48
Winnipeg, MB	9.00	8.83	9.77	6.80	5.74	5.18	4.47
American Cities							
Boston, MA	31.52	31.45	34.05	26.66	25.41	23.24	23.23
Chicago, IL	16.75	14.22	13.29	9.28	8.69	7.88	6.38
Detroit, MI ⁴	20.86	15.82	15.65	11.17	9.27	8.21	7.93
Houston, TX ⁴	13.75	12.95	14.79	12.01	10.54	9.84	9.29
Miami, FL ⁴	12.51	12.33	14.43	10.10	9.27	8.38	7.17
Nashville, TN	15.53	16.06	18.74	13.22	12.71	11.57	6.98
New York, NY ⁴	30.46	27.34	29.92	22.05	15.26	13.83	13.83
Portland, OR ⁴	13.99	13.73	14.30	10.53	9.11	8.46	8.20
San Francisco, CA ⁴	27.95	28.86	33.72	22.81	16.23	14.85	14.78
Seattle, WA	15.02	12.39	11.77	10.53	10.23	10.05	9.23
AVERAGE	16.19	15.32	16.86	12.65	11.24	9.87	9.05

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.

Muskrat Falls public inquiry over cost overruns begins

By Staff The Canadian Press



The construction site of the hydroelectric facility at Muskrat Falls, Newfoundland and Labrador is seen on Tuesday, July 14, 2015.

The Canadian Press/Andrew Vaughan

Hydroelectric dams are particularly vulnerable to cost and schedule overruns, an expert testified Monday at the start of a public inquiry into the Muskrat Falls hydro megaproject in Labrador.

Oxford University economics professor Bent Flyvbjerg, who is described on his faculty page as “the most cited scholar in the world in megaproject planning and management,” took the stand in Happy Valley-Goose Bay, N.L., to outline common mistakes and causes of cost overruns of such projects.

He said hydroelectric projects are particularly risky, seeing average cost overruns of 96 per cent and

schedule overruns of 32 per cent, with little change over time since the 1950s.

READ MORE: Inquiry into \$12.7 billion Muskrat Falls ‘boondoggle’ set to begin in Labrador

The massive Labrador dam and powerhouse harnessing the lower Churchill River near Happy Valley-Goose Bay still isn’t complete, but its price tag has climbed to \$12.7 billion with the bill going to a province of just 530,000 people.

The independent inquiry, led by provincial Supreme Court Justice Richard LeBlanc, will examine how the project was approved and executed, and why it was exempt from oversight from the Public Utilities Board.

Flyvbjerg, who has also consulted on megaprojects in several European and Asian countries, was commissioned by the inquiry to compile a report giving global context and best practices for success in megaprojects, but not specifically looking at the case of Muskrat Falls.

The report, co-authored by Alexander Budzier, surveyed 274 megaprojects around the world, including over 40 in Canada. Flyvbjerg defines a megaproject as one that costs more than \$1 billion.

WATCH: Protesters explain why they’re bringing the issue of the Muskrat Falls dam to Ottawa

Data from the report shows that hydroelectric dams are “riskier than all other projects, except nuclear.”

Flyvbjerg said many projects are affected by underestimated costs, lack of independent oversight and political optimism about a plan’s success – something he called “optimism bias.”

The report recommends outside, independent oversight in the early stages to counter unintentional optimism, as well providing as much transparency as possible from the beginning of the process.

When questioned by co-counsel Barry Learmonth, Flyvbjerg said projects are generally more successful when stakeholders, like Indigenous groups and environmental groups, are engaged in the process early on.

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