

**Box 484, Kaslo
British Columbia, V0G 1M0**



**Phone: (250)353-7350
E-Mail: ashadra@telus.net**

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British Columbia Utilities Commission
Sixth Floor, 900 Howe Street
Box 250, Vancouver, B.C.
V6Z 2N3

Attention: Patrick Wruck, Commission Secretary

KASCA #81 Response to FortisBC (FBC) Intervener Request #1 On KSCA #81 Evidence
FortisBC Inc 2017 Cost of Service Analysis and Rate Design

1.0 Reference: Exhibit C4-11, page 1

"Further, contrary to the position being taken by FBC [FortisBC], it is noted that:

"...the vast majority of low -income consumers are also low -use consumers" (p2)"

1.1 Please provide a citation or reference for this conclusion drawn by the author of the referenced study".

KSCA81 Response to FBC IR#1.1.1:

Please find attached Exhibit 28: two tables produced by Howat, John, "Median 2009 Household Electricity Usage (KWH) by Poverty 150% Status", National Consumer Law Center, Boston, Massachusetts, July 2015.

The data for these tables were themselves taken from the microdata of the 2009 Residential Energy Consumption Survey conducted by the U.S. Department of Energy's Energy Information Administration (EIA):

<https://www.eia.gov/consumption/residential/data/2009/index.php?view=microdata>

An updated 2015 EIA microdata study can be found at:

<https://www.eia.gov/consumption/residential/data/2015/>

"1.2 Is the conclusion drawn by the author of the referenced study specific to either British Columbia or the FortisBC service area?"

KSCA81 Response to FBC IR#1.1.2:

No, but Statistics Canada's biennial [Table 25-10-0062-01 Household energy consumption, by household income, Canada and provinces](#), which uses nearly the same income interval data as the US EIA, has consistently found that British Columbia households with an income of \$20,000 or less average fewer kWh of electricity used than all those in the higher income categories:

<https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=2510006201&pickMembers%5B0%5D=1.11&pickMembers%5B1%5D=3.2>

The data provided for 2013 and 2015 per household electricity consumption, above, confirm the findings of earlier data provided by Statistics Canada in 2011 that looked at the correlation between total household energy consumed relative to income, in which it is stated:

"Home energy use increased with income...Households with an annual income of \$150,000 and over consumed an average of 141 GJ of energy in 2011, compared to 68 GJ consumed by households with an annual income under \$20,000 (Table 4-6)" (Energy use, by household and dwelling characteristics, Chart 2, Average energy use, 2011, Statistics Canada, 2011: <https://www150.statcan.gc.ca/n1/pub/11-526-s/2013002/part-partie1-eng.htm>).

Interestingly:

"Thirty-eight percent of total energy used by Canadian households was in the form of electricity. A total of 547,096 TJ of electricity was consumed in homes in 2011, up 5% from 2007. However, the average rate remained the same; 40 GJ of electricity were used per household in both 2011 and 2007" (Ibid, Electricity).

This, when converted from "gigajoules" to kWh, represents 11,111 kWh per household, which is approximately 94.2% of what the average FBC household uses in electricity per annum:

<https://www.unitjuggler.com/convert-energy-from-GJ-to-kWh.html?val=40>

The biennial [Table 25-10-0062-01](#), above, found that all British Columbia households with an income of \$20,000 or less in 2015 used on average (when converted from "gigajoules" to "kWh") approximately 4,389 kWh of electricity, while those earning \$20,000 to \$39,999 used 5,750 kWh, whereas those earning \$150,000 and more averaged 11,528 kWh annually.

Obviously electrical consumption will vary according to the size of principal residence, number of occupants and type of household heating system, but the fact remains that Statistics Canada found that, on average in 2015, the highest income households used 2.5 times more electricity than the lowest, and double the second highest income bracket.

2.0 Reference: Exhibit C4 - 11, Exhibit 24

"2.1 Please provide the rationale relied upon by KSCA that would lead to a conclusion that the price of electricity should rise at the same or a similar rate as that of the CPI itself".

KSCA81 Response to FBC IR#1.2.1:

According to the 2016 Canadian Census, 40% of the residents of Kaslo are sixty years or older and the majority of these residents are on a fixed income, along with any other person receiving government assistance or the minimum wage - incomes which have increased at or below the rate of inflation. It is therefore of considerable concern to KSCA81 to learn that across BC between 2008 and 2017 the average price of electricity increased at a rate 4.9 times greater than the Consumer Price Index (CPI).

To place this concern in context, the US EIA found the following energy insecurity in its 2015 survey:

33.5% of all households in the Pacific region reduced or went without food or medicine to pay energy costs, and 13.4% left the household at an unhealthy temperature.

This rose to 45.7% of those households across the US living in 2 to 4-unit apartment complexes, and 55.9% of those living in mobile homes, with 33% and 41% respectively living in a household at an

unhealthy temperature.

While, to date, KSCA81 has been unable to find any studies undertaken that quantify similar experiences in British Columbia and the FBC service area, it is noted that both AMCS/RDOS, in their evidence (C3-7), and the Kaslo Food Hub in their letter of comment (E-20) have provided anecdotal information implying that such circumstances exist for FBC residential customers as well.

This apparently has become such a problem in the BC Hydro service area that the BC Utilities Commission has now given the Company permission to collect a charge on each electrical bill that will be credited to a “customer crisis fund...to help those who have trouble paying their bills” (Sandra Macklem, Facebook Post, Powell River, August 24th 5.34 PM).

KSCA81 would prefer FBC to be directed to address the problems with the COSA and rate design before they are allowed to collect an additional charge from residential customers to help resolve the crisis in electrical bill payment.

3.0 Reference: Exhibit C4 - 11, Exhibit 26

“Table 1 compares the kWh available after the customer has paid the monthly Customer Charge, however in the calculation utilizes the current Customer Charge of \$16.05 and Tier 1 rate of the RCR (\$0.10117/kWh) for the FortisBC 2018 Basic Customer Charge column, and for the Proposed FortisBC 2023 Basic Customer Charge column the current flat rate with a Customer Charge of \$18.70 and an energy rate of \$0.11749/kWh.

In order to reflect only the impact of the Customer Charge difference, rates that would exist under similar rate structures should be used.

3.1 Please recalculate the table using the current Customer Charge of \$16.05 and an energy rate of \$0.12021/kWh for the FortisBC 2018 Basic Customer Charge column, and for the Proposed FortisBC 2023 Basic Customer Charge column the current flat rate with a Customer Charge of \$18.70 and an energy rate of \$0.11749/kWh”.

KSCA81 Response to FBC’s IR1.3.1

Comparison of Basic Charge/Flat Rate Options			
Company	FortisBC 2009 Basic Customer Charge \$11.88 ¹	FortisBC 2017 Basic Customer Charge \$16.05 ¹	Proposed FortisBC 2023 Basic Customer Charge \$18.70 ¹
\$30 monthly budget	243 kWh ²	116 kWh ²	96 kWh ²
Daily Access	8.1 kWh ³	3.9 kWh ³	3.2 kWh ³
\$40 monthly budget	377 kWh ²	199 kWh ²	181 kWh ²
Daily Access	12.6 kWh ³	6.6 kWh ³	6 kWh ³
\$50 monthly budget	511 kWh ²	282 kWh ²	266 kWh ²
Daily Access	17 kWh ³	9.4 kWh ³	8.9 kWh ³

1. The monthly 2009 Basic Customer Charge is created by dividing the stated bimonthly charge in half and adding one penny. Source for the 2009 rates: Exhibit A-23, FortisBC Inc.

Residential Inclining Block Rate Application ~ Project No.3698628.

The 2017 and 2023 rates are stated as requested, noting that between January 1st, 2009 and 2017 the cost of the Basic Customer Charge to every residential customer grew by 35.1%, and then is proposed to increase by a further 16.5%, for a total increase over fifteen years of 57.4% - approximately 3.8% per year.

2. The actual January 1st, 2009 FBC “flat” energy unit rate was \$.07463 per kWh, the theoretical “flat” rate for 2017: \$.12021 per kWh, and the proposed “flat” rate for 2023: \$.11749 per kWh. In effect the “flat” rate would have increased by approximately 61.1% between January 1st, 2009 and 2017, approximately 6.8% a year, but only increases by 57.4% between 2009 and 2023, thus reversing the decision of the Commission panel, in G156-10, to adjust the impact of the Basic Customer Charge on low use residential customers.

The number of kWh accessible is calculated by deducting the Basic Customer Charge from the budgeted amount and then dividing the remainder by the energy unit rate per kWh.

3. Between 2008 and 2017, while the Consumer Price Index only rose by 11.3%, the number of kWh a residential customer within the FBC service area could access on a daily basis with a \$30 monthly budget declined by 51.9%, 47.6% on a \$40 budget and 44.7% on a \$50 budget. The total decline in daily accessible kWh between 2009 and 2023, if the FBC “flat” rate design proposal is adopted, would be 60.5%, 52% and 47.9% respectively.

4.0 Reference: Exhibit C4-11, Exhibit 26, Table 2

“4.1 Please provide details of the calculations that result in the values in the \$30 monthly budget row of Table 2 such that the derivation of the values in the rest of the table can be discerned”.

KSCA81 Response to FBC’s IR1.4.1

In column one, because there is a Basic Customer Charge (BCC), you deduct the \$16.05 from the \$30 budget to obtain a balance of \$13.95. You then divide that balance of \$13.95 by the current Tier 1 rate to obtain the number of kWh that can be purchased ($\$13.95/\$.10117$), and obtain a value of 137.88 or approximately 138 kWh.

In column two, since you have no BCC you divide the entire \$30 by the energy rate. In this instance, since the BCC has been abolished, you have to increase both the Tier 1 and Tier 2 rates to achieve full recovery of costs, and in accordance with the amount recommended in FBC’s response to KSCA81 IR#2.8.9.iv, the Tier 1 and Tier 2 rates are increased by 12% to \$.11331 and \$.17491 respectively. (KSCA81 apologizes for a typo in footnote 3 which read \$.1331 which is wrong). So you then divide \$30 by \$.11331 and obtain a value of 264.76 or approximately 265 kWh.

In column three both the BCC and the Tier 1 and Tier 2 rates have been abolished and so the proposed FBC “flat” rate has been increased by 12% - from \$.11749 to \$.13159. So you then divide \$30 by \$.13159 and obtain a value of 227.98 or approximately 228 kWh.

This third option is a potential compromise in that it allows low end users, who are mostly low income residential customers, to access more kWh for their minimal \$30, \$40 and \$50 per month budgets, while at the same time reducing the per kWh cost to former Tier 2 residential customers.

The crossover point comes at around a budget of \$150 per month and consumption above 13,680 kWh per year. Instead of pitting low-end, and mostly low income residential customers against high end users and higher income customers, the column three proposal maintains the conservation

principle of: the more kWhs you use the more you pay, but does not maintain the perceived unfair price component that some Tier 2 customers are objecting to.

Under a Minimum Billing rate, low end residential customers get an immediate access to kWh without first having to pay an upfront BCC, and high end electricity users do not pay a perceived higher rate per kWh than low end users. Everyone pays the same energy rate and those who fall below a certain consumption level are required to pay a minimum amount to be hooked up to the FBC grid as a customer.

5.0 Reference: Exhibit C4 -11, Exhibit 27

“5.1 What was the net amount of energy in kWh (the difference between the total amount of energy delivered by FBC and the total amount of energy delivered to FBC) that the Bauman/Shadrack household purchased from FBC in 2016?”

KSCA81 Response to FBC’s IR1.5.1

1.28 MWh or 1,281 kWh. According to the six FBC bills issued to the Bauman/Shadrack household in 2016, 2.715 MWh was purchased and 1.434 MWh transferred to the FBC grid from a solar PV production system, noting that the billing period is from December 16, 2015 to December 19th, 2016.

“5.2 In percentage terms, how does the value from question 5.1 compare to the mean consumption for all of FBC’s residential customers of approximately 11,800 kWh?”

KSCA81 Response to FBC’s IR1.5.2

1.28 MWh represents approximately 10.86% of the mean annual consumption for FBC's residential customers.