

Principles of Public Utility Rates

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Public Utilities Reports, Inc.

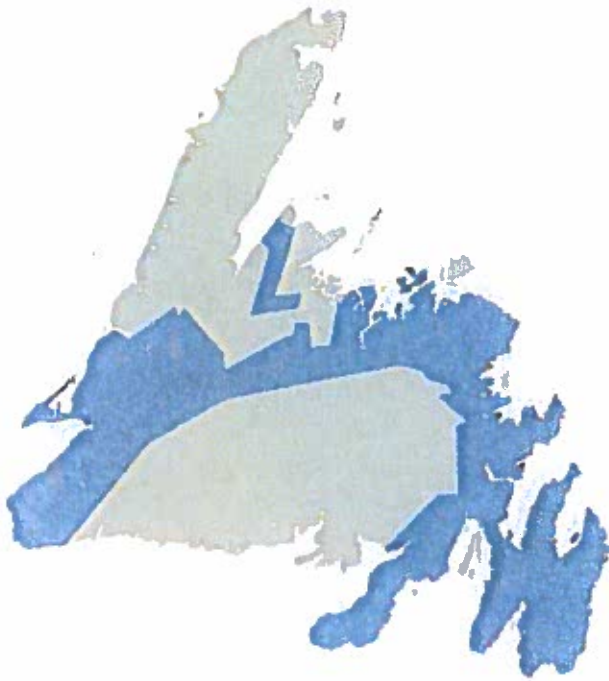
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Electrical Power Control Act

Lowest Possible Cost

The Electrical Power Control Act, 1994 (the “Act”) regulates this province’s electrical resources. The Act requires that all sources and facilities for the production, transmission and distribution of the province’s power should be managed and operated in the manner that would result in reliable power being delivered to consumers in the province at the **lowest possible cost**. The Act also requires that rates to be charged should be **reasonable**. After all, electricity is a necessity.

**Figure 2-3:
Newfoundland Power's Service Territory**



Electricity Rate 2006 – 2024

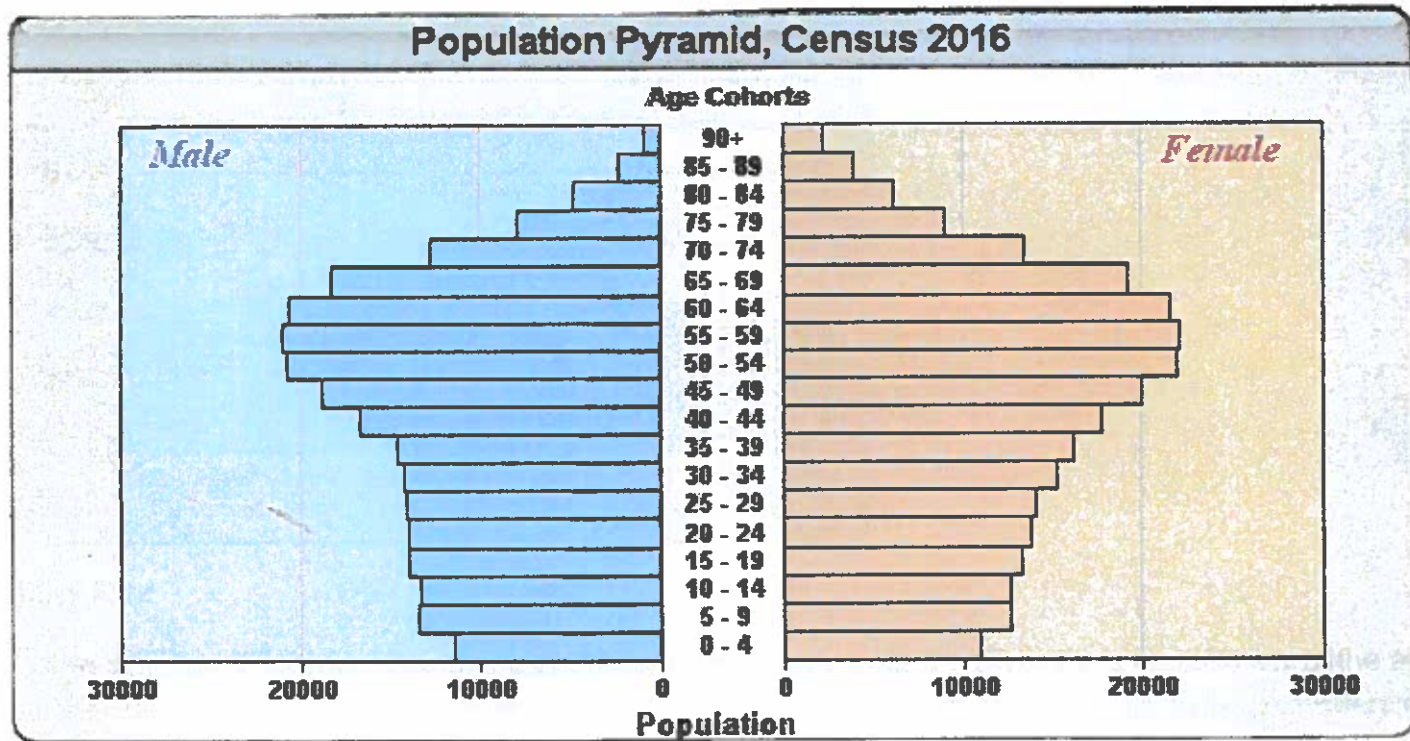
Date	Cost per kWh1	kWh Usage	Power Costs	Basic Customer Charge	HST	Total
August 2006	8.920 cents	2000 kWh	\$178.40	\$16.00	\$29.16	\$223.56
August 2007	8.644 cents	2000 kWh	\$172.88	\$16.00	\$28.33	\$217.21
August 2008	9.631 cents	2000 kWh	\$192.62	\$16.00	\$31.29	\$239.91
August 2009	8.916 cents	2000 kWh	\$178.32	\$16.00	\$29.15	\$223.47
August 2010	9.512 cents	2000 kWh	\$190.24	\$16.00	\$30.94	\$237.18
August 2011	10.407 cents	2000 kWh	\$208.14	\$16.00	\$33.62	\$257.76
August 2012	11.171 cents	2000 kWh	\$223.42	\$16.00	\$35.91	\$275.33
August 2013	10.945 cents	2000 kWh	\$218.90	\$16.00	\$35.24	\$270.14
August 2014	11.178 cents	2000 kWh	\$223.45	\$16.00	\$35.93	\$275.38
August 2015	10.573 cents	2000 kWh	\$211.46	\$16.00	\$34.12	\$261.58
August 2016	9.719 cents	2000 kWh	\$194.38	\$16.00	\$31.56	\$241.94
August 2017	10.604 cents	2000 kWh	\$212.08	\$16.00	\$34.21	\$262.29
August 2018	11.391 cents	2000 kWh	\$227.82	\$16.00	\$36.57	\$280.39

Date	Cost per kWh2	kWh Usage	Power Costs	Basic Customer Charge	HST	Total
August 2021	13.5 cents	2000 kWh	\$270.00	\$16.00	\$42.90	\$328.90
August 2022	20 cents	2000 kWh	\$400.00	\$16.00	\$62.40	\$478.40
August 2023	21 cents	2000 kWh	\$420.00	\$16.00	\$65.40	\$501.40
August 2024	23 cents	2000 kWh	\$460.00	\$16.00	\$71.40	\$547.40

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No Growth Population Figures

Year	No Growth Population Figures
1989	576,000
1992	580,000
2000	527,000
2004	517,000
2015	520,000
2019	514,000
2025	513,000



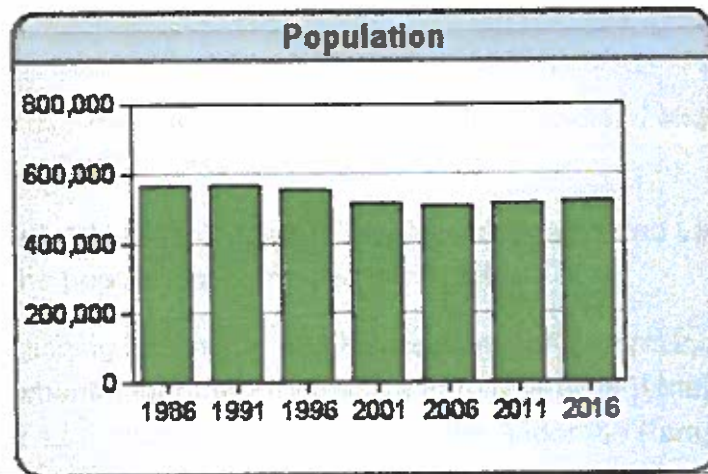
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Newfoundland and Labrador Profile

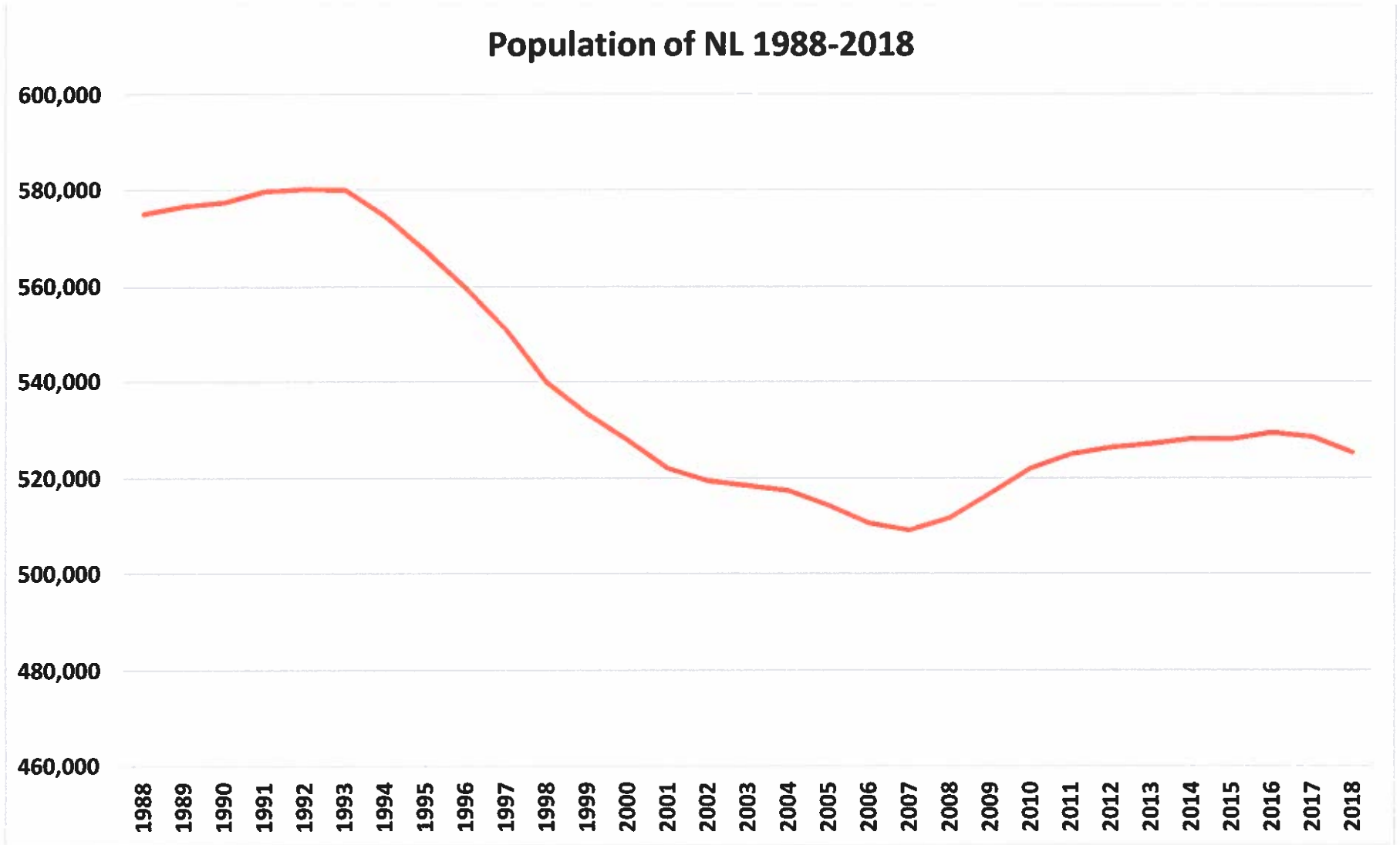
Demographics

2016 Census Population

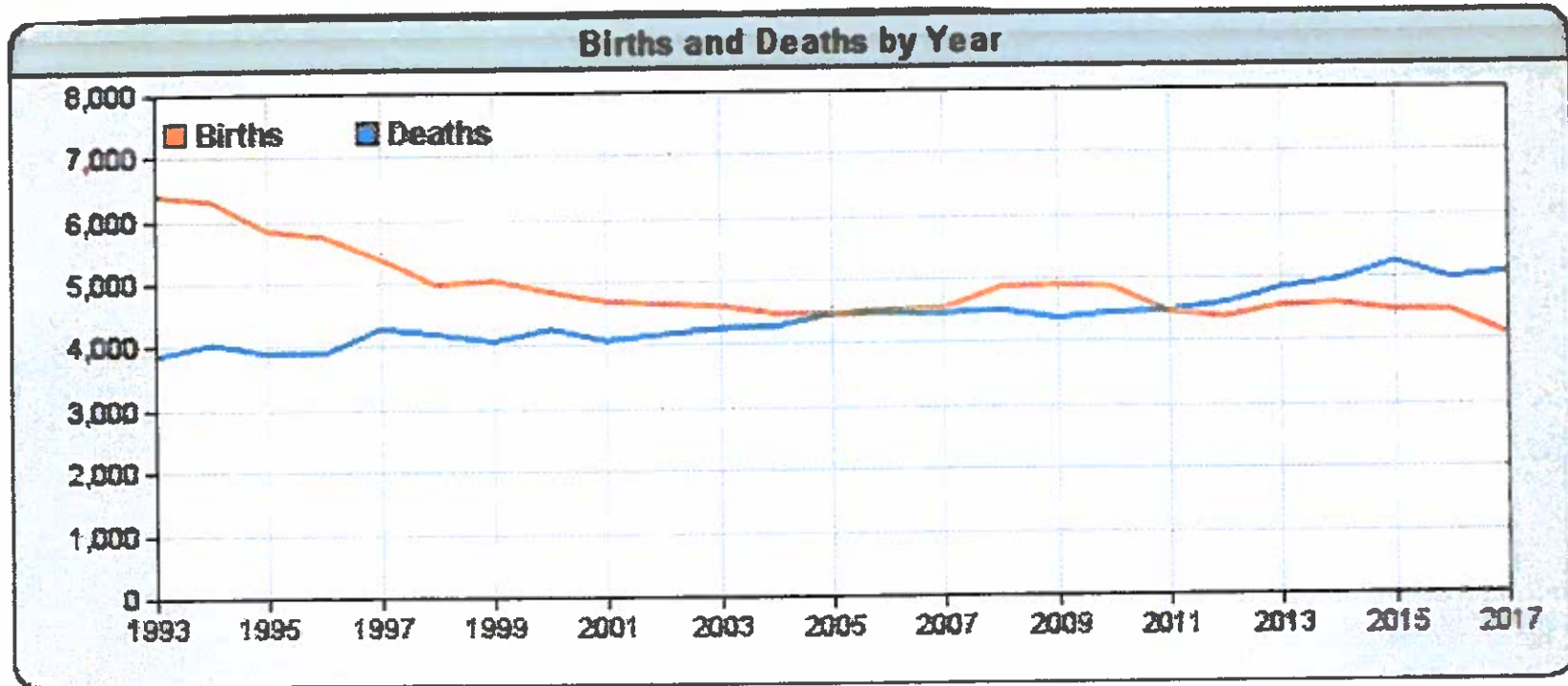
The 2016 Census population for Newfoundland and Labrador was 519,715. This represents an increase of 1.0% since 2011 (514,535 in 2016, up from 514,535). Over the same period, Canada experienced a population increase of 5.0% since 2011 (35,151,725 in 2016, up from 33,476,700). The median age in Newfoundland and Labrador was 46 in 2016.



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Statistics Canada

[Home](#) > [Summary tables](#) >

Related tables: [Residential construction](#).

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Housing starts, by province

	2013	2014	2015	2016	2017
	number				
Canada	187,923	189,329	195,535	197,915	219,763
Newfoundland and Labrador	2,862	2,119	1,697	1,398	1,400
Prince Edward Island	636	511	558	556	911
New Brunswick	2,843	2,276	1,995	1,838	2,324
Nova Scotia	3,919	3,056	3,825	3,767	3,984
Quebec	37,758	38,810	37,926	38,935	46,495
Ontario	61,085	59,134	70,156	74,952	79,123
Manitoba	7,465	6,220	5,501	5,318	7,501
Saskatchewan	8,290	8,257	5,149	4,775	4,904
Alberta	36,011	40,590	37,282	24,533	29,457
British Columbia	27,054	28,356	31,446	41,843	43,664

Sources: Statistics Canada, CANSIM, table [027-0008](#), Canada Mortgage and Housing Corporation (CMHC).
Last modified: 2018-04-10.

Find information related to this table (CANSIM table(s); Definitions, data sources and methods; *The Daily*, publications; and related Summary tables).

Date modified: 2018-04-10

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Household electricity consumption, by household income, Canada and NL

Table: 25-10-0062-01 (formerly CANSIM 153-0163)

Gigajoules per Household in 2015

Geography: Canada, Province or territory

	Canada Electricity	Newfoundland and Labrador Electricity
Household income		
Under \$20,000 (includes income loss)	31.7	F
\$20,000 to \$39,999	32.7	44.7
\$40,000 to \$59,999	39.8	49.9
\$60,000 to \$79,999	41.5	80.8
\$80,000 to \$99,999	44	F
\$100,000 to \$149,999	48.8	86.6
\$150,000 and more	51.2	65.1

F : too unreliable to be published.

Statistics Canada. Table 25-10-0062-01 Household energy consumption, by household income
<https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=2510006201>

Operating Statistics	For the year ended December 31				
	2016	2015	2014	2013	2012
Electricity sales - breakdown (GWh)					
Residential	3,655	3,655	3,618	3,531	3,441
General service	2,295	2,302	2,286	2,232	2,211
Total sales	6,950	5,957	5,899	5,763	5,652
Growth in volume throughputs	-0.1%	1.0%	2.4%	2.0%	1.8%
Customers					
Residential	229,815	227,455	224,824	221,995	218,290
Commercial	34,591	34,319	34,055	33,623	33,241
Total	264,406	261,774	258,879	255,618	251,531
Energy generated and purchased (GWh)					
Energy generated	427	432	430	429	432
Energy purchased	5,868	5,877	5,817	5,678	5,544
Energy generated + purchased	6,295	6,309	6,247	6,107	5,976
Less: transmission losses + internal use	345	353	348	344	324
Total sales	5,950	5,956	5,899	5,763	5,652
System losses and internal use	5.8%	5.9%	5.9%	6.0%	5.7%
Installed generation capacity (MW)					
Hydroelectric	97	97	97	97	97
Gas turbine	37	37	37	37	37
Diesel	5	5	5	5	6
Total	139	139	139	139	140
Native peak demand (MW)	1,381	1,382	1,343	1,281	1,241
Rate base (CAD millions)	1,061	1,019	985	916	883

Household electricity consumption, by household income, Canada and NL

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\$60,000 to \$79,999	41.5	80.8
\$80,000 to \$99,999	44	F
\$100,000 to \$149,999	48.8	86.6
\$150,000 and more	51.2	65.1

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Statistics Canada. Table 25-10-0062-01 Household energy consumption, by household income
<https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=2510006201>

NEWFOUNDLAND POWER'S AFTER TAX PROFITS

Newfoundland Power's annual after tax profits have now reached in excess of **\$40,000,000.00** a year.

2017 - \$40,971,000.00;

2016 - \$39,953,000.00;

2015 - \$38,758,000.00;

2014 - \$37,283,000.00;

On average Newfoundland Power is making a monthly net after tax profit over \$3,000,000.00 from its customers and or in excess of \$100,000.00 a day”.

WHENEVER. WHEREVER.
We'll be there.



2020 Capital Budget Application

July 2019



An application to the
Board of Commissioners
of Public Utilities of
Newfoundland and
Labrador

2018 CAPITAL BUDGET SUMMARY

<u>Asset Class</u>	<u>Budget (000s)</u>
1. Generation - Hydro	\$ 2,119
2. Generation - Thermal	6,301
3. Substations	12,788
4. Transmission	7,168
5. Distribution	38,857
6. General Property	1,763
7. Transportation	3,362
8. Telecommunications	198
9. Information Systems	6,570
10. Unforeseen Allowance	750
11. General Expenses Capitalized	4,000
Total	\$ 83,876

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2019 CAPITAL BUDGET SUMMARY

<u>Asset Class</u>	<u>Budget (000s)</u>
1. Generation - Hydro	\$ 2,663
2. Generation - Thermal	8,242
3. Substations	13,039
4. Transmission	10,781
5. Distribution	40,001
6. General Property	2,630
7. Transportation	3,990
8. Telecommunications	233
9. Information Systems	6,975
10. Unforeseen Allowance	750
11. General Expenses Capitalized	4,000
Total	\$ 93,304

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2020 CAPITAL BUDGET SUMMARY

<u>Asset Class</u>	<u>Budget (000s)</u>
1. Generation - Hydro	\$ 6,849
2. Generation - Thermal	349
3. Substations	15,204
4. Transmission	9,623
5. Distribution	44,623
6. General Property	2,467
7. Transportation	3,869
8. Telecommunications	108
9. Information Systems	6,772
10. Unforeseen Allowance	750
11. General Expenses Capitalized	6,000
Total	\$ 96,614

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WIKIPEDIA

SAIDI

The **System Average Interruption Duration Index (SAIDI)**^[1] is commonly used as a reliability indicator by electric power utilities. SAIDI is the average outage duration for each customer served, and is calculated as:

$$\text{SAIDI} = \frac{\sum U_i N_i}{N_T}$$

where N_i is the number of customers and U_i is the annual outage time for location i , and N_T is the total number of customers served. In other words,

$$\text{SAIDI} = \frac{\text{sum of all customer interruption durations}}{\text{total number of customers served}}$$

SAIDI is measured in units of time, often minutes or hours. It is usually measured over the course of a year, and according to IEEE Standard 1366-1998 the median value for North American utilities is approximately 1.50 hours.

WIKIPEDIA

SAIFI

The **System Average Interruption Frequency Index (SAIFI)**^[1] is commonly used as a reliability indicator by electric power utilities. SAIFI is the average number of interruptions that a customer would experience, and is calculated as

$$\text{SAIFI} = \frac{\sum \lambda_i N_i}{N_T}$$

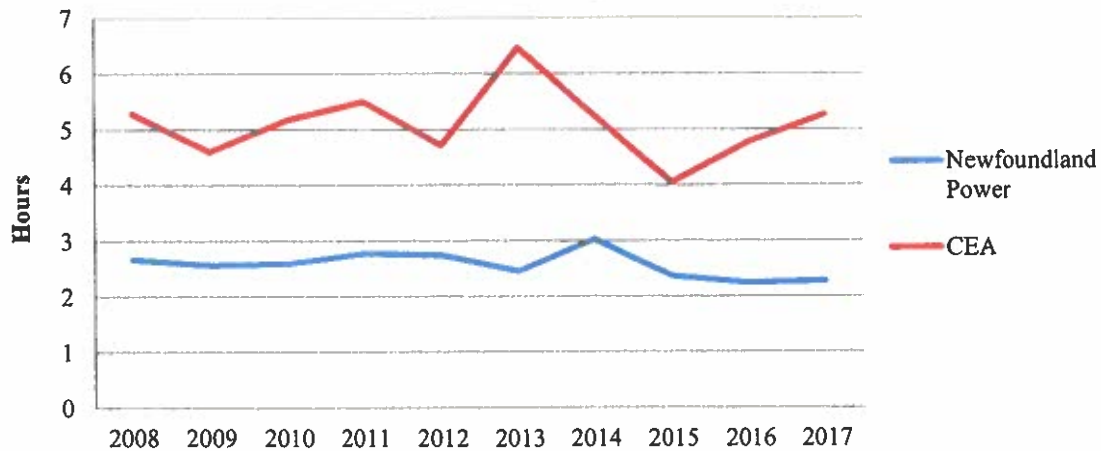
where λ_i is the failure rate, N_i is the number of customers for location i and N_T is the total number of customers served. In other words,

$$\text{SAIFI} = \frac{\text{total number of customer interruptions}}{\text{total number of customers served}}$$

SAIFI is measured in units of interruptions per customer. It is usually measured over the course of a year, and according to IEEE Standard 1366-1998 the median value for North American utilities is approximately 1.10 interruptions per customer.

1 Figure 2-6 shows Newfoundland Power’s SAIDI under normal operating conditions in
 2 comparison to the Canadian average for the period 2008 to 2017.⁵⁷
 3

**Figure 2-6:
 SAIDI
 Newfoundland Power vs. Canadian Average
 Normal Operating Conditions
 2008 to 2017**

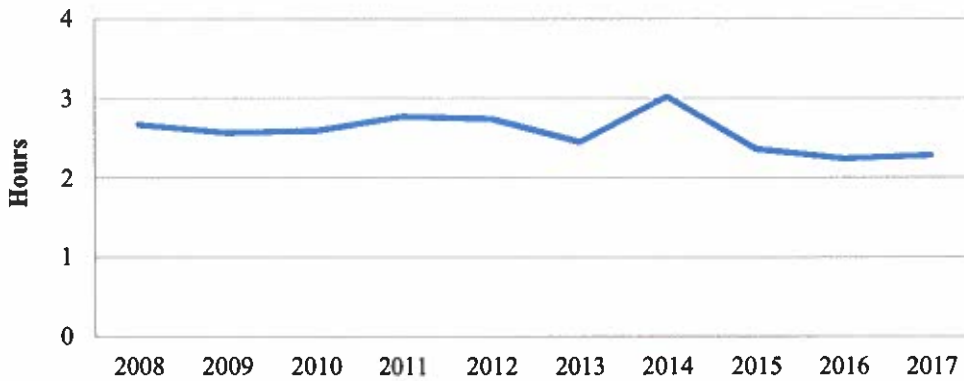


4
 5 The average duration of outages experienced by the Company’s customers has been
 6 approximately ½ the Canadian average since 2008.

⁵⁷ References to the Canadian average in *Section 2: Customer Operations* refer to Region 2 utilities that are members of the CEA. Region 2 utilities include Canadian utilities that serve a mix of urban and rural markets. These are ATCO Electric, BC Hydro, FortisAlberta, FortisBC, Hydro One, Hydro Quebec, Manitoba Hydro, Maritime Electric, NB Power, Newfoundland and Labrador Hydro, Newfoundland Power, Newmarket-Tay Power Distribution, Nova Scotia Power, Northwest Territories Power Corporation, Sask Power, Veridian Connections, Waterloo North Hydro, Yukon Electrical Co. and Yukon Energy.

- 1 Figure 2-4 shows the average duration of outages (“SAIDI”) experienced by Newfoundland
- 2 Power’s customers for the period 2008 to 2017 under normal operating conditions.⁵⁴
- 3

**Figure 2-4:
SAIDI
Newfoundland Power
Normal Operating Conditions
2008 to 2017**



- 4
- 5 Under normal operating conditions, the duration of customer outages has remained relatively
- 6 consistent since 2008, at approximately 2.3 to 3 hours per year.

⁵⁴ “SAIDI” denotes System Average Interruption Duration Index. It is a standard metric used to measure the duration of outages experienced by customers. SAIDI is calculated by dividing the total number of customer outage minutes by the total number of customers served. Newfoundland Power calculates SAIDI in accordance with CEA guidelines.



2019 Capital Budget Application

Volume I

July 31, 2018

1 expenditure totals \$118.2 million, which includes budgets for previously approved projects. The
 2 2019 CBA also includes approximately \$322,000 for Front End Engineering and Design (FEED)
 3 expended in 2018 to support the development of proposals on a number of projects. All 2019
 4 projects address the need to sustain and/or expand the existing asset base to meet growing
 5 customer demand, while improving reliability and adhering to Hydro’s principles of safety and
 6 environmental responsibility.

7
 8 Figure 1 shows the 2019 Capital Budget Summary by major area. The categories, other than the
 9 Allowance for Unforeseen Items, are discussed further in the following sections.

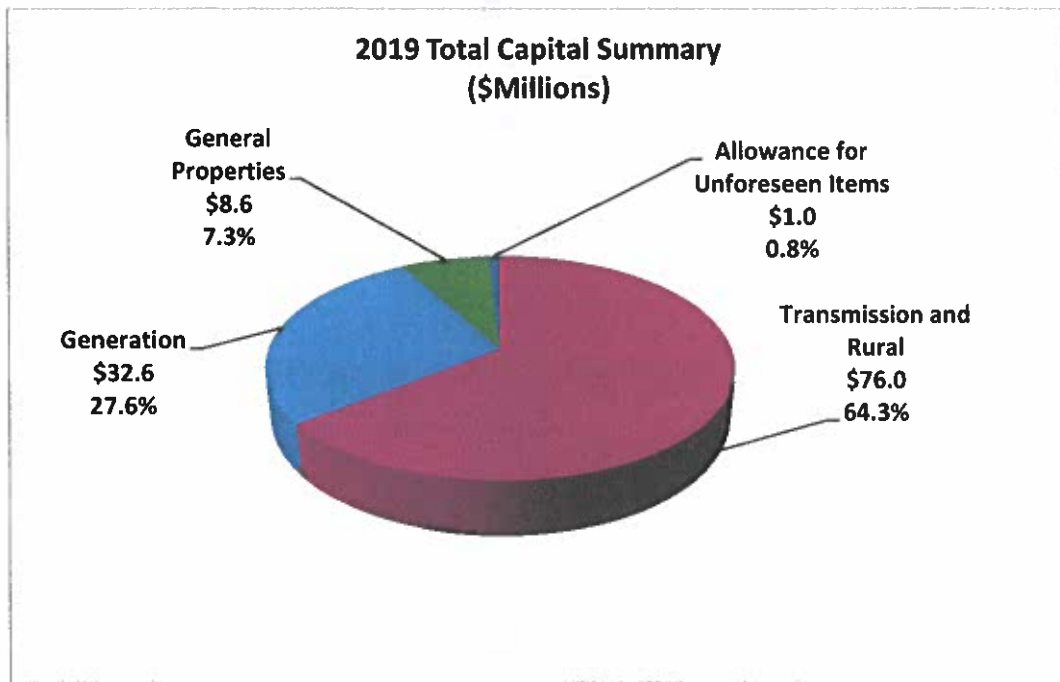


Figure 1: 2019 Capital Budget - Summary

10 **4.1 Generation**

11 On the Island Interconnected System, electricity is provided by Hydro through a mix of
 12 hydroelectric and fossil fuel fired generation, supplemented by power purchases.

13
 14 The planned Generation area expenditures of \$32.6 million account for 27.6% of overall
 15 expenditures for 2019. The division of the 2019 Capital Budget for the Generation area among
 16 Hydraulic Plant, Thermal Plant, and Gas Turbines expenditures is shown in Figure 2. The five-year
 17 (2013 to 2017) average capital expenditures for generation are shown in Figure 3.

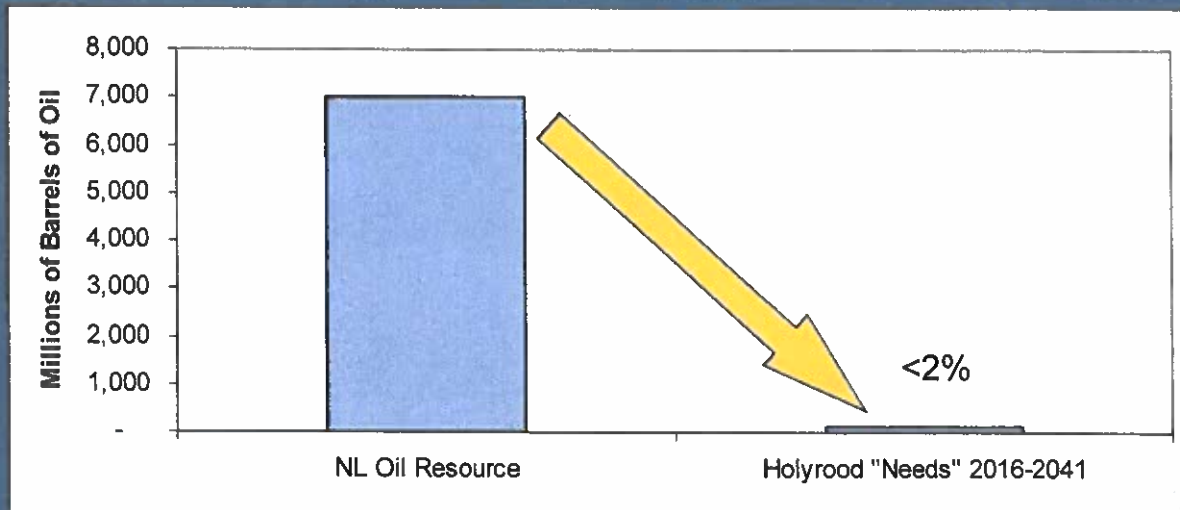
Year ended December 31	Total dividends paid	Payee
2003	\$ 41.1 million	Province
2004	\$ 50.6 million	Province
2005	\$ 55.8 million	Province
2006	\$ 2.6 million	Province
2007	\$ -	
2008	\$ -	
2009	\$ 44.5 million	Nalcor
2010	\$ 92.4 million	Nalcor
2011	\$ 78.0 million	Nalcor
2012	\$ 30.3 million	Nalcor
2013	\$ 38.9 million	Nalcor

2012	\$245 million
2013	\$531 million
2014	\$552.7 million

Presentation to the Board of Commissioners of Public Utilities

By Cabot Martin February 20, 2012

Holyrood Fuel Oil Needs are Insignificant Relative to our Offshore Oil Resource base in the Jean d' Arc Basin alone



Newfoundland & Labrador is and will remain a major exporter of oil up to and beyond 2041 and the end of the proposed Muskrat Falls 50 year Take or Pay Contract

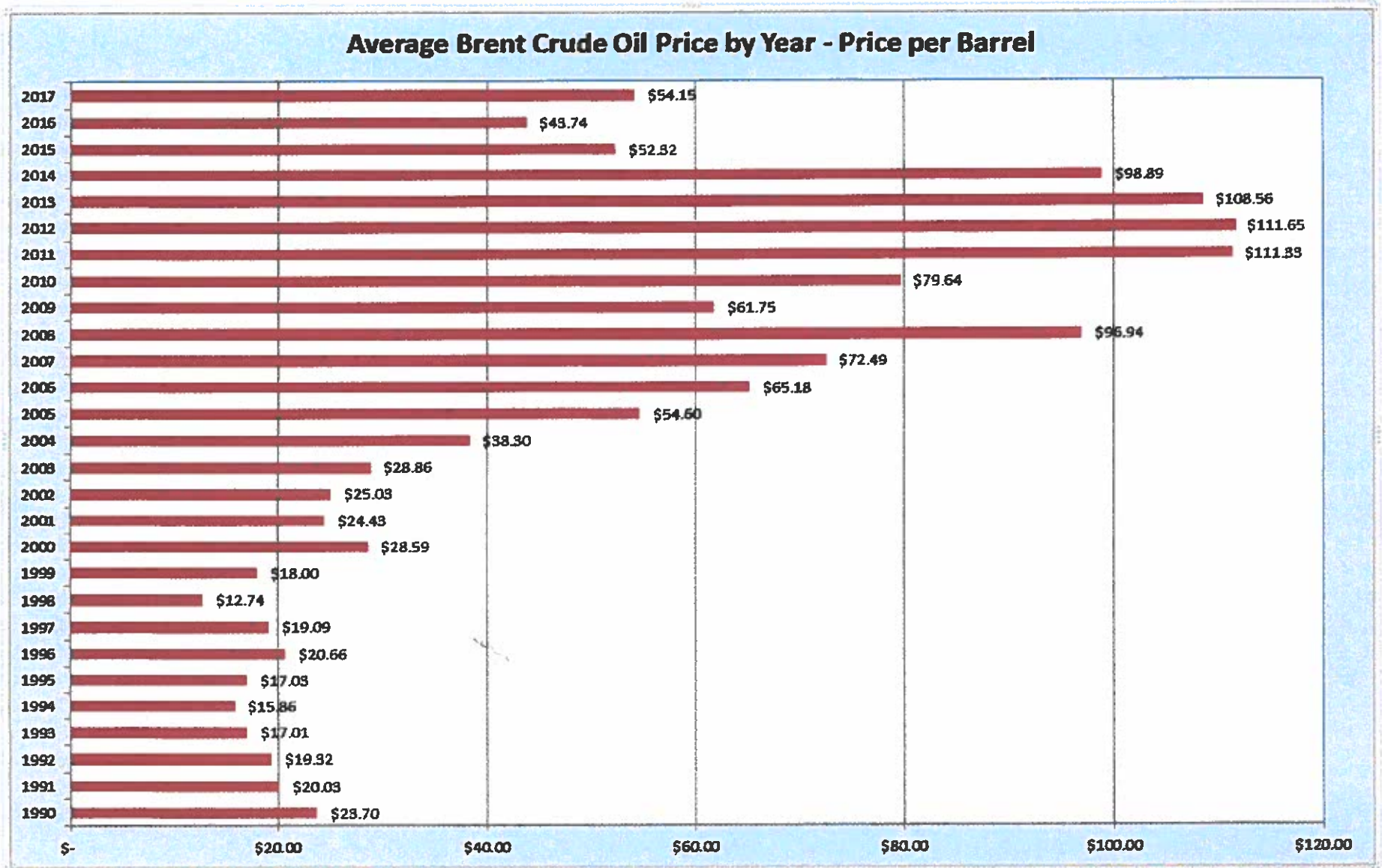
Oil Price Risk in the Thermal option

– High oil prices are not a risk to economic well being of this province (and its people) **prior to 2041.**

• **Low oil prices are...**

– **Especially if** consumers have to pay rates based on a 50 year “Take or Pay” Contract for expensive Muskrat Falls with all costs including

– **And a Provincial Government struggling under low oil revenues**



Holyrood Oil Expense

	Oil Consumption	BBLs Oil Expense \$
2000	1,596,080	49,365,526
2001	3,315,853	98,459,041
2002	3,678,183	112,533,899
2003	3,074,340	114,800,504
2004	2,605,818	80,845,316
2005	2,136,109	80,305,084
2006	1,257,608	63,511,330
2007	2,044,648	107,369,079
2008	1,728,456	123,733,519
2009	1,534,685	80,585,476
2010	1,362,373	100,620,867
2011	1,469,169	135,100,000
2012	1,428,337	164,000,000
2013	1,610,966	171,800,000
2014	2,251,225	244,300,000
2015	2,423,337	162,900,000
Totals	33,517,186	1,890,229,641

Source: Maurice Adams... Vision 2041

Holyrood Oil Expense

	Oil Consumption	BBLs Oil Expense \$	kWh Costs ¢
2006	1,257,608	63,511,330	8.920
2007	2,044,648	107,369,079	8.644
2008	1,728,456	123,733,519	9.631
2009	1,534,685	80,585,476	8.916
2010	1,362,373	100,620,867	9.512
2011	1,469,169	135,100,000	10.407
2012	1,428,337	164,000,000	11.171
2013	1,610,966	171,800,000	10.945
2014	2,251,225	244,300,000	11.178
2015	2,423,337	162,900,000	10.573
Totals	33,517,186	1,890,229,641	

Source: Maurice Adams...Vision 2041

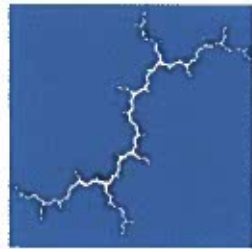
From Nalcor's Leadership website:

"Mr. Adams, The Holyrood Plant has operated at or near capacity (e.g. >95%) in the nine-year period 2003-2011 for approximately 1,250 hours, or less than 2% of the time. It is rare for the Holyrood Plant to operate at full capacity because Hydro is committed to minimizing the use of oil-fired generation. We do this by using our hydroelectric and wind sources as much as possible to offset generation at the Holyrood Plant. The Holyrood Plant would operate at full capacity only if essential to meet the system load requirements, primarily under contingency situations (e.g. significant loss of generation or transmission capability).

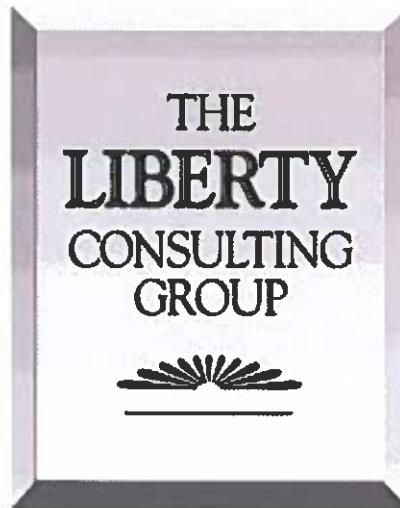
The total Island actual energy demand for year 2011 (non-weather adjusted) was 7651.5 GWh. The estimated weather adjusted island energy demand for 2011 was 7742.5 GWh".

Muskrat Falls Project – Rate Mitigation

Revenue Requirements Mitigation



Synapse
Energy Economics, Inc.



**Reference Questions to the
Board of Commissioners of Public Utilities
Rate Mitigation Options and Impacts**

The June 23, 2017 update on the Muskrat Falls Project by Nalcor Energy indicates the capital cost and during-construction financing costs of the Muskrat Falls Project have risen to \$12.7 billion, which is more than double the estimated costs submitted to the Board of Commissioners of Public Utilities (the "Board") in the 2011 reference question, when the Board was asked to compare the Muskrat Falls Project and an isolated-island alternative. The obligations under the Federal Loan Guarantee, dated November 30, 2012, place the financial burden of the Muskrat Falls Project on Newfoundland and Labrador ratepayers. As a result, the June 23, 2017 update forecasts that, without taking mitigating actions, rates for domestic customers on the Island of Newfoundland will increase to 22.89 cents per kilowatt hour in 2021, and related increases are expected for other Island rate classes. This rate increase is primarily attributable to the impact of cost recovery required for the Muskrat Falls Generating Station, Labrador Transmission Assets, and the Labrador Island Link projects, collectively known as the Muskrat Falls Project (the "MFP"), which was exempted from oversight by the Board on November 29, 2013.

Government's position is that the projected rate increases associated with Muskrat Falls Project costs are not acceptable. Without intervention, these projected rate increases would likely cause financial hardship for customers in all rate classes on the island portion of Newfoundland and Labrador ("Ratepayers"). With the assistance of the Board, the Government of Newfoundland and Labrador wishes to examine options to reduce the impact of the Muskrat Falls Project on rates.

To assist with Government's approach to this issue, pursuant to section 5 of the *Electrical Power Control Act, 1994*, the Government of Newfoundland and Labrador hereby refers the following matter to the Board:

The Reference Questions

The Board shall review and report to the Minister of Natural Resources on:

- 1) Options to reduce the impact of MFP costs on electricity rates up to the year 2030, or such shorter period as the Board sees fit, including cost savings and revenue opportunities with respect to electricity, including generation, transmission, distribution, sales, and marketing assets and activities of Nalcor Energy and its Subsidiaries, including NLH, Labrador Island Link Holding Corporation, LIL General Partner Corporation, LIL Operating Corporation, Lower Churchill Management Corporation, Muskrat Falls Corporation, Labrador Transmission Corporation, Nalcor Energy Marketing Corporation, and the Gull Island Power Company (together the "Subsidiaries", and collectively with Nalcor Energy, "Nalcor");
- 2) The amount of energy and capacity from the MFP required to meet Island interconnected load and the remaining surplus energy and capacity available for other uses such as export and load growth; and

- 3) The potential electricity rate impacts of the options identified in Question 1, based on the most recent MFP cost estimates.

These questions are the “Reference Questions”. In answering the Reference Questions, the Board shall consider the power policy of the province, as set out in the *Electrical Power Control Act, 1994*, and the following:

- new and existing sources of Nalcor income that could be put towards reducing rate increases, including income from:
 - Nalcor power exports, including those from generation assets it owns or controls, the MFP, and Churchill Falls recapture power, taking into account any export-related costs such as those relating to Nalcor Energy Marketing; and
 - any other effective opportunities to find synergies, efficiencies and reduce duplication and costs within Nalcor and its subsidiaries.
- whether it is more advantageous to Ratepayers to maximize domestic load or maximize exports. Depending on the Board’s recommendation, provide options for:
 - increasing domestic load, such as:
 - The electrification of industrial facilities and oil-fueled boilers in heating plants; and
 - Incentives for increased electrification and usage by NL ratepayers, including increasing number of ratepayers, electric vehicles and electric heating; or
 - increasing exports, such as:
 - Incentives for energy conservation, including for lowering system peak demand to maximize system capacity reserves, in order to increase availability of energy and capacity for export.
- forward-looking cost savings and opportunities for increased efficiency related to operating and maintenance of MFP.
- what are industry best practices related to external market purchases and sales of electricity.

On November 20, 2017, the Government of Newfoundland and Labrador issued the *Commission of Inquiry Respecting the Muskrat Falls Project Order* under the *Public Inquiries Act, 2006*. As part of its mandate, the Commission of Inquiry is required to examine the sanction and execution of the MFP. Therefore, to avoid duplicating the work of the Commission of Inquiry, the Board shall not review MFP construction costs in answering the Reference Questions.

Where the Board determines that information required by the Board for this review is commercially sensitive information, as defined in the *Energy Corporation Act*, and the Board also determines that the release of such information would significantly harm the competitive position of, interfere significantly with the negotiating position of, or result in financial harm to

Nalcor or a third party, the Board and its experts and consultants may use such information for this review but shall not release such information to any party.

For the purposes of this review, a consumer advocate shall be appointed pursuant to section 117 of the *Public Utilities Act*.

Any costs of the Board in respect of this review, shall be paid by Nalcor Energy, and shall not be considered MFP costs.

The Board shall provide an interim report to the Minister of Natural Resources by February 15, 2019. The interim report shall include the Board's preliminary findings from Questions 1 and 2 with respect to reasonably-anticipated cost savings, and reasonable-anticipated revenue from surplus energy and capacity.

The Board's final report shall be provided to the Minister of Natural Resources by January 31, 2020.

The Minister shall make the reports public.

**The Long-Run Price Elasticity of Demand for Electricity
and the Feasibility of Raising Electricity Rates to Finance Muskrat Falls**

**A Report Prepared
for
Dennis Browne, QC
The Consumer Advocate**

by

**James P. Feehan, MSc(Econ), PhD
Economic Consultant
St. John's, NL**

July 31, 2018

Table 4
 Comparison of Annual Spacing Heating Fuel Costs (HST of 15% Included):
2,000 Square Foot Detached House Built after 1990 – St. John’s

	Electricity Price at 11.4 cents/kWh	Electricity Price at 17 cents/kWh	Electricity Price at 23 cents/kWh
Electric Baseboard heat	\$3,074	\$4,584	\$6,202
Electric Heat Pumps: Air-to-Air	\$1,618	\$2,413	\$3,264
Electric Heat Pumps: Mini-splits	\$1,230	\$1,834	\$2,481
Heat Pumps-Geothermal	\$1,025	\$1,528	\$2,067
Oil Furnace: old at 70% efficiency	\$3,497	\$3,497	\$3,497
Oil Furnace: new at 85% efficiency	\$2,880	\$2,880	\$2,880
Propane (fireplace) at 70% efficiency	\$4,305	\$4,305	\$4,305
Propane furnace at 80% efficiency	\$3,767	\$3,767	\$3,767
Wood stove/furnace at 55% efficiency	\$1,723	\$1,723	\$1,723
Wood stove/furnace at 70% efficiency	\$1,353	\$1,353	\$1,353
Wood Pellets at 75% efficiency	\$2,400	\$2,400	\$2,400

Table 5

Comparison of Annual Hot Water Heating Fuel Costs: 240 Litres Daily

	Electricity Price at 11.4 cents/kWh	Electricity Price at 17 cents/kWh	Electricity Price at 23 cents/kWh
Electric Hot Water Heater (old) at 85% efficiency	\$701	\$1,046	\$1,415
Electric Hot Water Heater (new) at 90% efficiency	\$663	\$988	\$1,337
Oil Stand-alone water heater at 55% efficiency	\$ 868	\$868	\$868
Propane Stand-alone water heater at 55% efficiency	\$1,068	\$1,068	\$1,068
Propane stand-alone/on-demand/ heater-high at 93% efficiency	\$632	\$632	\$632

1 Q. (Reference 2017 GRA Volume I, page 1.11) If improved conservation reduced
2 customer demand by 5% in 2021 what would be the impact on the expected
3 customer rate in 2021 of 26.32¢ per kWh?
4
5

6 A. The question poses a scenario of a hypothetical reduction in customer “demand” of
7 5%. Hydro has assumed that the reduction in “demand” in this question refers to
8 reduced customer energy consumption on the Island Interconnected System. Hydro
9 also notes that the 2021 rate of 26.32 cents/kWh cited in this question is the
10 forecast rate for island residential customers, inclusive of 15% tax.¹
11

12 A 5% reduction in customer energy consumption in 2021 would reduce retail
13 energy billings from customers by approximately 5%. The energy not used by
14 customers could be sold in external markets to recover approximately 25%² of the
15 lost retail revenue. Overall, Hydro estimates a reduction of 5% of energy usage by
16 customers would increase customer rates, on average, by approximately 4%.³
17 Applying the same approach, Hydro estimates a reduction of 10% of energy usage
18 by customers would increase customer rates on average by approximately 8%.⁴

¹ Nalcor’s June 2017 forecast island residential electricity rate for 2021 = 22.89 cents/kWh x 15% HST = 26.32 cents/kWh.

² Based on forecast energy markets.

³ 4% equals approximately $((100\% \text{ Revenue divided by } 95\% \text{ sales}) - 1) \times \text{less } 25\% \text{ recovery through export sales.}$

⁴ 8% equals approximately $((100\% \text{ Revenue divided by } 90\% \text{ sales}) - 1) \times \text{less } 25\% \text{ recovery through export sales.}$



Box 8910, St. John's, NL, A1B 3P6
Power Outages & Emergencies: 1-800-474-5711
Customer Relations: 737-2802 or 1-800-663-2802 Fax: 737-2903
Email at customerrelations@newfoundlandpower.com
Visit us online at newfoundlandpower.com

[REDACTED]

Account Number [REDACTED]
Billing Date
February 24, 2011

Previous Balance
Payments to February 7 - Thank you
Previous balance owing

[REDACTED]

This Month's Electric Charges
Basic Customer Charge
Energy Charge: 1840 kWh @ 9.584 cents/kWh
Discount: 1.5%
Subtotal electric charges
Harmonized Sales Tax: 13% (R103864831)
Total charges

[REDACTED]

Receive your bill electronically every month with ebills. Join ebills today at www.newfoundlandpower.com.

Meter Reading Information

Date	Reading
Feb 24	35599
Jan 25	33759
30 Days	1840 kWh

Total Amount Due on or before March 10, 2011 \$213.75

To avoid interest, please pay by March 25, 2011.

[REDACTED]

Your Past Energy Usage

Electrical Usage	This Month	Same Month Last Year
Total kWh	1840	1518
Billing Days	30	29
Average kWh/Day	61	52

[REDACTED]

Please keep this portion for your records.

000040