

**BC HYDRO FIVE-YEAR STATISTICS 2013 to 2018**

In late August the government finally released the province's public accounts for 2017/18. The delay in the release was caused by the government waiting to decide how much of the year-end surplus would be set aside to address auditor general's objection to the use of regulatory accounting at B.C. Hydro.<sup>1</sup>

The decision to prospectively commit \$950 million to begin to reduce the balance of the net deferrals overshadowed the reporting on B.C. Hydro's actual results for the previous fiscal year.

The lack of meaningful analysis may be explained because of the difficulty in understanding the true meaning and import of the financial results. The pernicious effect of deferring revenue and expenditures distorts the financial results. The deferrals are designed to attain pre-determined net income and dividend targets set by cabinet order,<sup>2</sup> as opposed to these results being the difference between the revenue received and the expenditure in the year.

This paper reviews the five-year change for certain key indicators.

**HIGHLIGHTS for 2017/18**

- Domestic revenue increased by 3.9% (pre-deferral) primarily due to the 3.5% rate increase; post-deferral the revenue increased by 6.3%.
- Domestic GWh sales were flat.
- Deferral adjusted expenditures increased by 7%.
- Net income from Trade was the same as the prior year.
- Net Income of \$684 million was as specified by cabinet directive, as was the dividend.
- The ratio of net regulatory assets to equity was 100%, an improvement from 114% in 2016/17.
- Combined short and long-term debt rose by \$340 million to \$20.36 billion.
- The deferral-adjusted debt to equity ratio was 79/21 compared to 80/20 in the prior year.

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<sup>1</sup> <https://vancouversun.com/news/politics/political-directives-have-undermined-b-c-hydros-finances-auditor-general-says> and [http://www.bcpolicyperspectives.com/media/attachments/view/doc/commentary\\_deferral\\_reversal\\_31\\_august\\_2018/pdf/commentary\\_deferral\\_reversal\\_31\\_august\\_2018.pdf](http://www.bcpolicyperspectives.com/media/attachments/view/doc/commentary_deferral_reversal_31_august_2018/pdf/commentary_deferral_reversal_31_august_2018.pdf)

<sup>2</sup> OIC 590/16 set the net income targets for 2016/17 and the next two fiscal years.

## FIVE-YEAR TRENDS

Nevertheless, it is possible to use the information provided in the report to draw certain conclusions and to review trends in certain key indicators.

### 1.0 Sales

Total gigawatt-hours sold in 2017/18 were down 479, or 0.8%, primarily due to a decline in the “Other” category (comprised of specific contract sales and surplus power). Table 1.1 shows that over the last five years the number of Domestic accounts increased by 6.6%, while the amount of power sold was flat.

The five-year results also show that the number of residential and commercial accounts increased in line with the province’s growth in population,<sup>3</sup> but the growth in GWh sold was less than half of the growth in the number of accounts. The lower usage may be related to demand elasticity; as the price increases the amount purchased declines. The change in price is shown on Table 1.2.

**Table 1.1- CHANGE IN CUSTOMER ACCOUNTS AND GWh’s SOLD, 2012/13 to 2017/18**

CATEGORY	Δ in NUMBER		Δ in GWh SOLD	
	Number	Per Cent	Number	Per Cent
Residential	114,703	6.8	447	2.5
Light Ind. And Commercial	10,692	5.3	490	2.7
Large Industrial	18	10.5	(68)	(0.5)
Other	(53)	(1.5)	(708)	(9.5)
TOTAL DOMESTIC	125,359	6.6	161	0.3
TRADE	(67)	(26.9)	(25,362)	(42.3)
TOTAL	125,292	6.6	(25,201)	(23.5)

Source: B.C. Hydro annual reports.

From April 2013 to April 2017 B.C. Hydro rates increased by a cumulative 26.2%. This is reflected in the five-year change in the sales price per megawatt hour shown in Table 1.2. The sales price of trade or export power rose 43%, but the volume of power traded declined by 42%, as noted in Table 1.1

**Table 1.2—CHANGE IN AVERAGE SALES PRICE 2012/13 to 2017/18 (\$/MWh)**

	2012/13	2017/18	Difference	Per Cent
Residential	91.06	115.54	24.48	26.9
Light Ind. And Commercial	78.11	98.55	20.44	26.2
Large Industrial	47.53	60.34	12.81	27.0
Other	43.41	65.14	21.73	50.1
TOTAL DOMESTIC	70.37	91.04	20.67	29.4

<sup>3</sup> BC Statistics reported Growth Q4 2012 4,568 million to Q4 2017 4,849, a change of 281,000 or 6.15% see Issue 17-60 <http://www.bcstats.gov.bc.ca/publications/infoline.aspx?BlogTagID=bc63623b-7bc5-4c24-9dd5-9de29da13ab7>

	TRADE	14.34	20.52	6.18	43.1
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Source: B.C. Hydro annual reports.

Note: The prices were before deferral additions. The cumulative increase in Domestic rates from 2014 to 2018 was 26.2%.

## 2.0 Cost of Energy

In the last five years B.C. Hydro's cost of energy increased by \$534 million, or 49.4%. This was entirely due to a 72.6% increase in the cost of electricity purchased from private power producers. The amount of water rental paid to the provincial government declined by some 7% due to the cancellation of the Tier 3 rates.

Table 2.1 also shows the increase in the cost of energy due to the addition of cost deferrals (which partially offsets the increase in revenue from deferrals).

**Table 2.1--CHANGE IN COST of ENERGY 2012/13 TO 2017/18 (\$=million)**

	2012/13	2017/18	Difference	Per Cent
Water Rental	348	324	(24)	(6.9)
Indep. Power Producers	760	1,312	552	72.6
Other	(27)	(21)	n/a	n/a
TOTAL	1,081	1,615	534	49.4
Deferral Transfer	42	131	n/a	n/a
TOTAL	1,123	1,746	n/a	n/a

Source: B.C. Hydro annual reports. Water rental net of growth in price less elimination of Tier 3.

## 3.0 Electricity Required and Sources

Over the last five years the total GWh required by B.C. Hydro to meet customer requirements declined by almost 9,500 GWh, or 10.8%. Table 3.1 shows that a 6,200 GWh increase in Domestic requirements was more than offset by a 15,900 GWh drop (about 51%) in power required for trade or export.

**Table 3.1--CHANGE IN ELECTRICITY REQUIRED 2012/13 TO 2017/18 (GWh)**

	2012/13	2017/18	Difference	Per Cent
Domestic	50,992	57,173	6,181	12.1
Trade	30,975	15,046	(15,929)	(51.4)
Line Loss	5,159	5,454	295	5.7
TOTAL REQUIRED	87,126	77,673	(9,453)	(10.8)

Source: BC Hydro annual reports.

To adjust to the decline in requirements B.C. Hydro reduced its purchases of short-term power contracts (reflecting the decline in Trade volumes). However, the commitment to private power producers resulted in a 3,679 GWh increase (34.5%) to this sector, and a

4,200 GWh drop (16.1%) in power from the publicly-owned dams. The decline in owned GWh produced was almost equal to the power from Site C (5,100 GWh).

**Table 3.2--CHANGE IN SOURCE 2012/13 TO 2017/18 (GWh)**

	<b>2012/13</b>	<b>2017/18</b>	<b>Difference</b>	<b>Per Cent</b>
BC Hydro	52,140	47,934	(4,206)	(16.1)
Independent Power Prod.	10,675	14,354	3,679	34.5
Other (Short Term)	24,311	15,385	(8,926)	(36.7)
TOTAL	87,126	77,673	(9,453)	(10.8)

Source: BC Hydro annual reports.

As shown in Table 2.1, during the last five years the payment to the private power producers increased by 72.6%, while Table 3.2 shows that the purchased GWh's increased by 34.5%. The average price per GWh increased from about \$71.20 to \$91.40, or 28% (some 5.6% per year).

#### **4.0 Change by Major Expenditure**

A review of the past five years of deferral-adjusted expenditures shows Domestic cost of energy up 55%, but overall cost of energy up only 25% as the purchases for Trade declined. Table 4.1 shows amortization and depreciation costs up 33%, reflecting the increase in the debt (including the increase resulting from the deferred expenditures and revenues). The growth in the finance charges was constrained by capitalizing certain interest charges.<sup>4</sup>

**Table 4.1--FIVE YEAR CHANGE IN DEFERRAL-ADJUSTED EXPENDITURES (\$=million)**

	<b>2012/13</b>	<b>2017/18</b>	<b>Difference</b>	<b>Per Cent</b>
Domestic Energy	1,123	1,746	623	55.5
Trade Energy	683	521	(162)	(23.7)
TOTAL	1,806	2,267	461	25.5
Amortization & Deprec.	953	1,267	314	32.9
Finance Charges	540	653	113	20.9
Grants & Taxes	234	243	9	3.8
Other--BC Hydro	856	1,123	267	31.2
TOTAL	4,389	5,553	1,164	26.5

Source: B.C. Hydro annual reports.

<sup>4</sup> <https://www.bchydro.com/content/dam/BCHydro/customer-portal/documents/corporate/accountability-reports/financial-reports/annual-reports/BCHydro-Crown-Corporation-2017-18-Annual-Report.pdf> Note 6.

## 5.0 Change in Net Deferrals

The actual net deferral balance for the last five years, and the ratio of net deferral assets to equity is shown in Table 5.1. The net deferral balance declined by \$142 million in 2017/18 compared to the prior year, and the total was approximately \$440 million less than forecast in 2016 because of lower deferrals for electricity costs, debt management and conservation programs (DSM).

**Table 5.1—NET DEFERRAL ASSETS to EQUITY RATIO (\$=million)**

	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
Net Reg. Assets	4,434	4,699	5,434	5,908	5,597	5,455
Equity	3,500	3,870	4,170	4,500	4,909	5,456
Deferral/Equity	126.7	121.4	130.3	131.2	114.0	100.0

Source: B.C. Hydro annual reports.

The ratio of net deferrals to equity is far higher than the 24.5% ratio at Hydro Quebec,<sup>5</sup> and the 39.5% reported by Manitoba Hydro.<sup>6</sup>

The government set aside \$950 million to reduce the net deferral balance. This is not reflected in the 2017/18 annual report.

## 6.0 Summary

The five-year comparison shows that despite a strong economy and significant population growth, the increase in electricity sales of Domestic electricity has lagged considerably. B.C. Hydro has been forced to pay significantly more for private power generation, and curtailed generation from its own dams to accommodate the increase in privately generated electricity.

The public power utility as been spending heavily on capital projects and the low interest rates have helped to keep the debt service costs relatively low.

The abuse of the deferral accounts has allowed the government to set electricity rates well below the cost of generation, transmission and distribution.

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The writer is a retired senior BC government public servant whose paper describing the BC government's manipulation of the finances of BC Hydro from 2008 to 2014 was published by *BC Studies* in November 2016. *BC Studies* published his paper on the 40-year financial history of ICBC in 2013. He has been an intervener in the BC Utilities Commission's recent reviews of both ICBC's and BC Hydro's rate requests.

<sup>5</sup> <http://www.hydroquebec.com/data/documents-donnees/pdf/annual-report.pdf>

<sup>6</sup> [https://www.hydro.mb.ca/corporate/ar/pdf/annual\\_report\\_2017\\_18.pdf](https://www.hydro.mb.ca/corporate/ar/pdf/annual_report_2017_18.pdf)

