

**SASKATCHEWAN REDUCING RELIANCE ON COAL TO GENERATE ELECTRICITY**

SaskPower, the electricity utility owned by the people of Saskatchewan, is in the process of reducing its dependence on coal to generate electricity. In November, the utility initiated generation from the new natural gas fired Chinook Power Station, which was constructed at a cost of \$605 million to produce 350 MW of electricity generated.<sup>1</sup> A \$260 million upgrade to the transmission line was also required to tie the new generating plant to the provincial grid.

The new facility uses combined cycle turbine technology, where natural gas fuels a combustion turbine that produces both electricity and heat. The heat is then captured to produce more electricity through a steam turbine. This technology is efficient and allows for rapid scaling of power to respond to changing demand, or to provide reliable base power to support intermittent wind or solar options. SaskPower claims that the combined cycle technology produces about half the CO<sub>2</sub> emissions of a coal-fired facility.

**Coal Phase-Out**

Under federal regulations all coal-fired generation in Saskatchewan must be shut down by 2030, with an extension granted for plants using carbon capture technology.<sup>2</sup> The province agreed with the federal government that 40% of its electricity will be produced by non-emitting source by 2030. In 2018/19, approximately 34% of SaskPower's generating capacity came from coal-fired facilities while 40% was generated using natural gas.<sup>3</sup>

The lower price of natural gas has made expansion of Saskatchewan's carbon capture project uneconomic. In 2017 the company said that electricity generated from gas costs about \$60 or \$70 per megawatt hour, compared to \$140 per megawatt hour to produce electricity with carbon capture and storage technology.<sup>4</sup>

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<sup>1</sup> The final cost was \$75 million under the budget; see <https://www.pipelinenews.ca/news/local-news/chinook-power-station-is-now-open-and-online-1.24029716>

<sup>2</sup> <https://www.cbc.ca/news/canada/saskatchewan/sask-ottawa-coal-agreement-1.4974402>

<sup>3</sup> See page 136 in SaskPower's 2018/19 annual report; <https://www.saskpower.com/about-us/Our-Company/Current-Reports>

<sup>4</sup> <https://www.cbc.ca/news/canada/saskatchewan/saskpower-carbon-capture-unlikely-future-1.4386411>

The low cost of natural gas was a major factor in the recent decision to approve a second natural gas fired combined cycle turbine. The new facility will be built in Moose Jaw and have a similar cost and operating capacity as the Chinook facility.<sup>5</sup>

SaskPower is proceeding with some small wind and solar generating projects. Also, it has agreed in principle to purchase an additional 215 MW of electricity (currently it purchases 25 MW) from Manitoba Hydro to help achieve its emission reduction targets.<sup>6</sup>

The government of Saskatchewan is also exploring the construction of small nuclear reactors for future power generation.<sup>7</sup>

## **Comparing SaskPower and BC Hydro**

In comparing the finances of SaskPower and BC Hydro a number of key issues stand out. First, the Saskatchewan utility has been experiencing demand growth. In the last ten years the total domestic sales for SaskPower increased by almost 30%, with the largest increases registered for oilfield (up 47.7%) and power sales (up 44.4%).<sup>8</sup> In the same period BC Hydro's domestic sales (including surplus sales) increased by only 2.5%.<sup>9</sup>

A second difference is that SaskPower does not use regulatory accounting. In contrast, BC Hydro relies on a variety of regulatory accounts to defer cost and revenue variances to achieve the annual net income target established by the government.<sup>10</sup> As of 30 September 2019, the net balance in the regulatory assets totalled \$4.82 billion, or approximately 96.4% of BC Hydro's equity.<sup>11</sup>

A key financial performance measure is the return on equity (ROE), which is the net income divided by the sum of retained earnings and equity advances. In 2018/19, the ROE for SaskPower was 7.9%, while the ROE for BC Hydro was approximately 12.5%. Despite the NDP government's moves to restore the authority of the B.C. Utilities Commission to regulate BC Hydro, the government continues to require the Commission to set rates for 2019 and 2020 to generate a high ROE.

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<sup>5</sup> <https://www.plant.ca/general/saskatchewan-going-ahead-with-natural-gas-power-station-187713/>

<sup>6</sup> <https://www.cbc.ca/news/canada/saskatchewan/sask-power-energy-purchase-manitoba-1.4882486>

<sup>7</sup> <https://thestarphoenix.com/news/local-news/sask-government-ponders-nuclear-power>

<sup>8</sup> Comparing the 2018/19 annual report to the 2008 annual report; see <https://www.saskpower.com/about-us/Our-Company/Current-Reports>

<sup>9</sup> Comparing the 2018/19 annual report to the 2008 annual report; see [https://www.bchydro.com/toolbar/about/accountability\\_reports/financial\\_reports/annual\\_reports.html](https://www.bchydro.com/toolbar/about/accountability_reports/financial_reports/annual_reports.html)

<sup>10</sup> The cabinet has ordered the B.C. Utilities Commission to set rates for 2019 and 2020 to achieve a net income target of \$712 million.

<sup>11</sup>

[http://www.bcpolicyperspectives.com/media/attachments/view/doc/commentary\\_bc\\_hydro\\_second\\_quarter\\_30\\_november\\_2019/pdf/commentary\\_bc\\_hydro\\_second\\_quarter\\_30\\_november\\_2019.pdf](http://www.bcpolicyperspectives.com/media/attachments/view/doc/commentary_bc_hydro_second_quarter_30_november_2019/pdf/commentary_bc_hydro_second_quarter_30_november_2019.pdf)

Given that BC Hydro's the large number of regulatory accounts result in a low risk to its net income, it would appear that the 12.5% ROE is much higher than would be expected or required if the regulator had the authority to independently set the ROE.

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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.

## APPENDIX

**Table 1 – SaskPower Domestic Sales 2008 to 2018/19 (GWh)**

	2008	2018/19	Per Cent Δ
Residential	2,712	3,216	18.6
Farm	1,306	1,353	3.6
Commercial	3,311	3,862	16.6
Oilfield	2,682	3,962	47.7
Power	6,898	9,964	44.4
Reseller	1,274	1,202	(5.7)
<b>TOTAL</b>	<b>18,192</b>	<b>23,559</b>	<b>29.5</b>

Source: SaskPower annual reports.

**Table 2 – BC Hydro Domestic Sales 2008 to 2018/19 (GWh)**

	2008	2018/19	Per Cent Δ
Residential	17,553	18,000	2.5
Commercial	18,406	19,007	3.3
Large Industrial	15,380	13,896	(9.6)
Surplus and Other	1,961	3,740	90.7
<b>TOTAL</b>	<b>53,300</b>	<b>54,643</b>	<b>2.5</b>

Source: BC Hydro annual reports.

**Table 3 – Return on Equity 2015/16 to 2019/20 Q2**

	2015/16	2016/17	2017/18	2018/19
SaskPower	(0.9)	2.5	6.2	7.9
BC Hydro	14.6	13.6	12.5	n/a

Source: SaskPower and BC Hydro (derived) annual reports.

