



V A L U A T I O N S E R I E S

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PUBLIC CHOICE ALTERNATIVES

Running Hard to Adapt In A Dangerously Fast-Changing Industry

A VALUATION & STRATEGIC APPRAISAL OF SASKPOWER

BY IAN MADSEN



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VALUATION SERIES*No. 31 / AUGUST 2019***PUBLIC CHOICE ALTERNATIVES:****Running Hard to Adapt In A
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EXECUTIVE SUMMARY

SaskPower is the electric power generating holding company and retail utility supplying the province of Saskatchewan. It also buys power from independent suppliers within the province. Unlike some of its Crown utility peers in Canada, it is not in bad financial condition.

Using an **intrinsic value method**, with net income substituted for free cash flow (which is negative and forecast to remain so) and taxed at statutory rates, the company's value is estimated from \$1.61B to a maximum of \$11.24B, with a tighter, more plausible range of a median (midpoint of all the relevant values) of \$2.81B to a mean (simple average of all the relevant values) of \$3.21B.

Under the **market-based valuation system**, as noted in the Executive Summary, using seven standard valuation metrics (trailing and forward Price/Earnings, Price/Sales; Price/Book Value; Enterprise Value to Earnings Before Interest, Taxes & Depreciation & Amortization [EV/EBITDA]; Revenue/EBITDA; Price/Operating Cash Flow), the current value ranges from \$3.34B to \$7.81B, with a median of \$5.88B and a median of \$6.73B.

The company has negative free cash flow and low returns on assets, equity and capital employed. Utilities usually pay a dividend to investors. The company is showing sufficient income to pay a dividend, but, given current low cash generation, investors may not consider the dividend sustainable. However, if the firm can show a credible, viable plan of redirection and commercial success and resilience to challenges, a share flotation could be successful, which could lead to a dividend thereafter, but if its debt burden was lower the sale would be smoother.

Some scenario experiments indicate that SaskPower should have part of its debt extinguished to optimize total sale proceeds to the citizens of the province. As the utility's debt level is a little high in relation to its cash generation capacity and its capital expenditure needs exceed operating cash flow, much, if not all of the first sale proceeds of treasury shares in a partial divestiture might or should be used to lower SaskPower's debt and not go to the provincial treasury. The experiments indicate, albeit not definitively, that using proceeds to retire at least one quarter and perhaps as much as one half of its long-term debt could be the optimal strategy.

Caveat: this report is nothing approaching a prospectus. Only intensive, meticulously minute appraisal of all of SaskPower's assets, including its physical assets, all its accounts and hidden assets and liabilities, plus all its contractual, legal and regulatory obligations, would give an accurate valuation of the company, albeit still dependent on subjective reasoning and assumptions. Even then it would not necessarily indicate what magnitude of proceeds could or would be garnered in a divestment. The estimates, projections, observations or analyses herein are neither definitive nor authoritative. Other analysts may have valid, alternative ways of scrutinizing and valuing SaskPower.

INTRODUCTION

History and Current State of SaskPower Hydro and its Operating Status

SaskPower is the provincial government wholly-owned Crown electric power utility serving the Province of Saskatchewan. It has about thirty thermal generating facilities with a total capacity of 3,542 megawatts, 'MW' (98.5 percent of total), and buys from another eleven independent producers (mainly wind and heat recovery operations) to make a total available capacity of 4,493 MW (40 percent gas-fired, 34 percent coal, 20 percent hydro-electric power, 5 percent wind or solar, 1 percent other).¹ Strangely, for the second largest uranium producer in the world, it has no nuclear.

The company was founded as the Saskatchewan Power Commission in 1929 to spread electrification throughout the province. It was tasked with buying and consolidating the many small community power stations and distribution networks scattered across the province. It gradually did so for the next several years, slowed down by the Great Depression and the consequent low incomes of the 1930's, and then the need to divert resources to the war effort from 1939-1945.²

In 1949 the company was renamed Saskatchewan Power Corporation. In the 1950's it became responsible for distribution of the new natural gas found in the western part of the province, and given the target of electrifying all farms in the heavily agricultural province.³ In 1959 work began on a hydroelectric dam on the South Saskatchewan River and two others are brought into operation, adding to one already in the fold.⁴

While the company would continue to sporadically purchase or build other hydroelectric facilities, such as the Island Falls one in the north,⁵ and the Athabasca one,⁶ it mainly focused on increasing coal-fired capacity during the next few decades as the economy and energy demand grew.⁷ In 1987 the company's name was changed to SaskPower.⁸ In 1988 gas operations were spun off into SaskEnergy.⁹ SaskPower gradually changed its energy feedstock strategy, illustrated by its commissioning of the Cory gas-fired plant near Saskatoon in 2003,¹⁰ and the commissioning of the Centennial wind power facility near Swift Current in 2006.¹¹ The Yellowhead Gas-fired peaking facility in North Battleford, inaugurated in 2010, is an early attempt by the company to anticipate variable customer demand or intermittent supply from renewable facilities.¹² SaskPower built a Carbon Capture and Storage (CCS) facility with an annual 1 MT CO₂ capacity in 2013.¹³ That same year it began to implement wireless 'smart grid' communications network-wide.¹⁴ In 2015 the company announced a goal to reduce its CO₂ emissions to 40 percent below 2005 levels by 2030.¹⁵ In 2017 it announced the construction of a new 350 MW gas-fired power station near Swift Current.¹⁶ In 2018 it announced plans for a 200 MW wind facility and a utility-scale solar installation.¹⁷

INTRINSIC VALUE: VALUATION OF SASKPOWER AS A BUSINESS, IN ITS CURRENT STATE

For the intrinsic value, projecting future cash flow growth, and bringing it to a net present value, a relatively conservative approach was taken which could undervalue the company (please see Table 1). A simple capitalization perpetuity formula was used, which is appropriate for a mature company. The company's free cash flow nominal (i.e., not adjusted for inflation) growth rate range was held within a restrained 2 to 4 percent range, and the required rate of return or cost of capital range was from 5 to 8 percent.

The firm could theoretically have higher growth in the future, so a modest growth rate was considered reasonable. Its cost of capital, given low expectations, the quality of its assets, and high current valuations in the stock market, could well be lower than the range used (and thus raise its estimated value), although there is also a chance that interest rates and the rate of return investors demand on equity (share) investment could increase.

The statutory tax rate used in calculations may be lower in the future, as there is continued global pressure to lower corporate tax rates, exemplified

by the recent drop in US corporation income tax rates, the slow decrease in Quebec, and a recent more ambitious schedule of decreases announced by the new government in Alberta, a neighbouring and sometimes rival province to Saskatchewan.

Capital expenditure in recent years has exceeded operating cash flow. The assumption was made that capital spending would stay restrained in growth but projections indicate that it will likely remain higher than operating cash flow.

The proprietary model used in projecting the line items that determine the various inputs into the intrinsic value employ calculations based on recent and historic trends in those line items. Then the model uses formulas to project the line item numbers for the following year. All main constituent line-item factors that determine net income, operating and free cash flow were projected on the basis of historic behaviour and mathematical analysis.

2019 projections show a negative value for the company. Hence, projections were made for net income used as a proxy for free cash flow. This

Table 1

Intrinsic Value, 2019, Using Free Cash Flow

METHOD 1: Intrinsic Value, or Value as Free Cash Flow-Generating Business

Fully Taxed Free Cash Flow Estimate for FY2019 from projection calculated above (\$B): -\$ 0.29

Present Value of Discounted Free Cash Flow = Estimated Next Year Free Cash Flow (Required Rate of Return ['r'] = Growth Rate ['g'])

Projected Fully Taxed Free Cash Flow Estimate for FY2019 (\$B): -\$ 0.29

Matrix Values (\$B) g=v; r=>	4.00%	5.00%	6.00%	7.00%	8.00%	9.00%	10.00%
0.00%	-\$ 7.35	-\$ 5.88	-\$ 4.90	-\$ 4.20	-\$ 3.67	-\$ 3.27	-\$ 2.94
1.00%	-\$ 9.80	-\$ 7.35	-\$ 5.88	-\$ 4.90	-\$ 4.20	-\$ 3.67	-\$ 3.27
2.00%	-\$ 14.70	-\$ 9.80	-\$ 7.35	-\$ 5.88	-\$ 4.90	-\$ 4.20	-\$ 3.67
3.00%	-\$ 29.40	-\$ 14.70	-\$ 9.80	-\$ 7.35	-\$ 5.88	-\$ 4.90	-\$ 4.20
4.00%	--	-\$ 29.40	-\$ 14.70	-\$ 9.80	-\$ 7.35	-\$ 5.88	-\$ 4.90
5.00%	\$ 29.40	--	-\$ 29.40	-\$ 14.70	-\$ 9.80	-\$ 7.35	-\$ 5.88
6.00%	\$ 14.70	\$ 29.40	\$ --	-\$ 29.40	-\$ 14.70	-\$ 9.80	-\$ 7.35
7.00%	\$ 9.80	\$ 14.70	\$ 29.40	\$ --	-\$ 29.40	-\$ 14.70	-\$ 9.80
Minimum		Maximum		Median		Mean (Average)	
Total Market Value (\$B)		-\$ 5.88		-\$ 3.67		-\$ 4.55	
						-\$ 9.46	

Note: 'g' is Growth Rate in Free Cash Flow or Proxy, 'r' is the Required Rate of Return; Bold font figures are used in the Mean, Median, Minimum and Maximum determinations.

Source: Author's calculations based on reports made available by the company.

latter approach, i.e., using net income, makes some conceptual sense, as over time a steady-state mature company will generally have capital expenditures that roughly cover depreciation expense, which arithmetically, would make net income equal to free cash flow.

Using this method, the calculations resulted in estimates of a minimum of \$1.61B to a maximum

of \$11.24B, with a tighter, more plausible range of a median (midpoint of all the relevant values) of \$2.81B to a mean (simple average of all the relevant values) of \$3.21B. Please see the results below in Table 2. As Table 1 above shows, just as in the previous iteration, the company cannot really sustain a debt of more than about one quarter of its current level, and that is before including the actual interest cost on the debt.

Table 2

Intrinsic Value, Using Net Income as a Proxy for Free Cash Flow

METHOD 1: Intrinsic Value, or Value as Free Cash Flow-Generating Business

Net Income as a Proxy for Free Cash Flow for FY2019 from projection calculated above (\$B): -\$ 0.11

Present Value of Discounted Free Cash Flow = Estimated Next Year Free Cash Flow (Required Rate of Return [r] = Growth Rate [g])

Projected Fully Taxed Net Income as a Proxy for Free Cash Flow for FY2025 (\$B): -\$ 0.11

Matrix Values (\$B) $g=v; r=>$	4.00%	5.00%	6.00%	7.00%	8.00%	9.00%	10.00%
0.00%	\$ 2.81	\$ 2.25	\$ 1.87	\$ 1.61	\$ 1.40	\$ 1.25	\$ 1.12
1.00%	\$ 3.75	\$ 2.81	\$ 2.25	\$ 1.87	\$ 1.61	\$ 1.40	\$ 1.25
2.00%	\$ 5.62	\$ 3.75	\$ 2.81	\$ 2.25	\$ 1.87	\$ 1.61	\$ 1.40
3.00%	\$ 11.24	\$ 5.62	\$ 3.75	\$ 2.81	\$ 2.25	\$ 1.87	\$ 1.61
4.00%	--	\$ 11.24	\$ 5.62	\$ 3.75	\$ 2.81	\$ 2.25	\$ 1.87
5.00%	-\$ 11.24	--	\$ 11.24	\$ 5.62	\$ 3.75	\$ 2.81	\$ 2.25
6.00%	-\$ 5.62	-\$ 11.24	--	\$ 11.24	\$ 5.62	\$ 3.75	\$ 2.81
7.00%	-\$ 9.80	-\$ 5.62	-\$ 11.24	--	\$ 11.24	\$ 5.62	\$ 3.75
	Minimum		Maximum		Median		Mean (Average)
Total Market Value (\$B)	\$ 1.61		\$ 11.24		\$ 2.81		\$ 3.21

Note: ' g ' is Growth Rate in Free Cash Flow or Proxy, ' r ' is the Required Rate of Return; Bold font figures are used in the Mean, Median, Minimum and Maximum determinations.

Source: Author's calculations based on reports made available by the company.

MARKET-BASED VALUE: VALUATION OF SASKPOWER USING STOCK MARKET AND FINANCIAL METRICS

With respect to the market-peer comparison valuation, there are a few complications. The Canadian electric utility sector includes a number of companies with depressed free cash flow, at least at this time. With US peers, the most similar companies have substantially negative free cash flow, meaning they require further financial inflow (i.e., they must borrow more or issue more share capital). Their recent net income is also depressed.

As noted in the Executive Summary, using seven standard valuation metrics (trailing and forward Price/Earnings, Price/Sales; Price/Book Value; Enterprise Value to Earnings Before Interest, Taxes & Depreciation & Amortization [EV/EBITDA]; Revenue/EBITDA; Price/Operating Cash Flow), the current value ranges from \$3.34B to \$7.81B, with a median of \$5.88B and a median of \$6.73B. Please see the details of the models' results in Table 3.

Table 3

Market Valuation Using Financial Metrics from Comparable Companies

Method 2: SaskPower Projections are for FY2019; Fully Taxed

Valuation metrics applied to SaskPower; ie, Market Value of Common Equity. Figures in \$B.	Trailing P/E (Market Value to Net Income)	Forward P/E (Market Value to Estimated Net Income)	Price to Sales	Price to Book Value	Enterprise Value/Revenue (subtracting net debt)	Enterprise Value/EBITDA (subtracting net debt)	Price to Operating Cash Flow
Average Seven Canadian Renewable-Dominated Utility Companies	\$ 2.40	\$ 5.47	\$ 2.60	\$ 5.47	\$ 3.46	\$ 2.57	\$ 5.63
Average Six Canadian Non-and-Renewable-Dominated Utility Companies	\$ 7.52	\$ 11.66	\$ 6.69	\$ 11.66	\$ 6.87	\$ 16.36	\$ 7.03
Average Thirty-four US-Listed Non-Renewable-Dominated Utility Companies	\$ 4.41	\$ 4.41	\$ 2.82	\$ 4.41	\$ 2.82	\$ 8.93	\$ 6.62
Average of All Above	\$ 4.55	\$ 6.93	\$ 3.34	\$ 6.93	\$ 7.81	\$ 3.77	\$ 6.53

Source: Capital IQ via Yahoo!Finance, additional material from BMO-Investorline, Valuation model formulae.

Market Value Using Comparable Companies and Six Viable Valuation Ratios

	Minimum	Maximum	Median	Mean (Average)
Total Market Value (\$B)	\$ 3.34	\$ 7.81	\$ 6.73	\$ 5.88

Source: Calculations based on OPG Annual Report financial data, comparison company data from Capital IQ via Yahoo!Finance.

FINANCIAL PERFORMANCE OF SASKPOWER, AND TRENDS IN SAME

As shown in Table 4 below, all of SaskPower's returns on assets, equity, and capital employed, have deteriorated over the past nine years whether the numerator in the ratios is Earnings Before Interest, Taxes and Depreciation and Amortization (EBITDA); net income; operating cash flow; or free cash flow. While this may not be a problem unique to SaskPower, as other utilities appear to

have similar issues of low profitability, low returns on investment, and negative free cash flow, some of these ratios have improved for those other companies in recent years. These return ratios are also lower than the weighted average interest rates of 4.3 percent that the firm is paying on the debt capital it is borrowing.

Table 4

Capital Efficiency Performance Metrics

	2010	2011	2012	2013	2014	2015	2016	2017
1. RETURN ON ASSETS								
Return on Assets Using EBITDA (Earnings Before Interest, Taxes and Depreciation & Amortization)								
EBITDA (\$M)	\$ 777	\$ 724	\$ 874	\$ 863	\$ 1,015	\$ 1,066	\$ 1,247	\$ 1,966
Average Assets (\$M)	\$ 5,538	\$ 5,970	\$ 6,605	\$ 7,787	\$ 9,139	\$ 10,054	\$ 10,671	\$ 11,182
RoA, EBITDA	14.0%	12.1%	19.2%	11.1%	11.1%	10.6%	11.7%	12.2%
Return on Assets Using Fully Taxed Net Income								
Fully Taxed Net Income (\$M)	\$ 149	\$ 181	\$ 99	\$ 89	\$ 44	-\$ 14	\$ 41	\$ 107
Average Assets (\$M)	\$ 5,538	\$ 5,970	\$ 6,605	\$ 7,787	\$ 9,139	\$ 10,054	\$ 10,671	\$ 11,182
RoA, NI	2.69%	9.09%	1.49%	1.07%	0.48%	-0.14%	0.98%	0.95%
Return on Assets Using Fully Taxed Operating Cash Flow								
Fully Taxed Operating Cash Flow (\$M)	\$ 382	\$ 476	\$ 360	\$ 541	\$ 375	\$ 414	\$ 549	\$ 669
Average Assets (\$M)	\$ 5,538	\$ 5,970	\$ 6,605	\$ 7,787	\$ 9,139	\$ 10,054	\$ 10,671	\$ 11,182
RoA, OCF	6.90%	7.97%	5.44%	6.95%	4.10%	4.12%	5.14%	5.98%
Return on Assets Using Fully Taxed Free Cash Flow								
Fully Taxed Free Cash Flow (\$M)	-\$ 134	-\$ 129	-\$ 594	-\$ 729	-\$ 843	-\$ 490	-\$ 313	-\$ 295
Average Assets (\$M)	\$ 5,538	\$ 5,970	\$ 6,605	\$ 7,787	\$ 9,139	\$ 10,054	\$ 10,671	\$ 11,182
RoA, FCF	-2.42%	-2.16%	-9.00%	-9.28%	-9.29%	-4.87%	-2.99%	-2.64%
2. RETURN ON EQUITY								
Return on Equity Using EBITDA (Earnings Before Interest, Taxes and Depreciation & Amortization)								
EBITDA (\$M)	\$ 777	\$ 724	\$ 874	\$ 863	\$ 1,015	\$ 1,066	\$ 1,247	\$ 1,966
Average Equity (\$M)	\$ 1,658	\$ 1,811	\$ 1,861	\$ 2,041	\$ 2,201	\$ 2,162	\$ 2,194	\$ 2,910
RoE, EBITDA	46.9%	40.0%	47.0%	42.9%	46.1%	49.9%	56.8%	59.01%
Return on Equity Using Fully Taxed Net Income								
Fully Taxed Net Income (\$M)	\$ 149	\$ 181	\$ 99	\$ 89	\$ 44	-\$ 14	\$ 41	\$ 107
Average Equity (\$M)	\$ 1,658	\$ 1,811	\$ 1,861	\$ 2,041	\$ 2,201	\$ 2,162	\$ 2,194	\$ 2,910
RoE, NI	8.98%	10.00%	5.30%	4.08%	1.99%	-0.64%	1.86%	4.61%
Return on Equity Using Fully Taxed Operating Cash Flow								
Fully Taxed Operating Cash Flow (\$M)	\$ 382	\$ 476	\$ 360	\$ 541	\$ 375	\$ 414	\$ 549	\$ 669
Average Equity (\$M)	\$ 1,658	\$ 1,811	\$ 1,861	\$ 2,041	\$ 2,201	\$ 2,162	\$ 2,194	\$ 2,910
RoE, OCF	29.0%	26.9%	19.9%	26.5%	17.0%	19.2%	25.0%	28.9%
Return on Equity Using Fully Taxed Free Cash Flow								
Fully Taxed Free Cash Flow (\$M)	-\$ 134	-\$ 129	-\$ 594	-\$ 729	\$ 843	-\$ 490	-\$ 313	-\$ 295
Average Equity (\$M)	\$ 1,658	\$ 1,811	\$ 1,861	\$ 2,041	\$ 2,201	\$ 2,162	\$ 2,194	\$ 2,910
RoE, FCF	-8.09%	-7.12%	-31.94%	-35.42%	-38.32%	-22.66%	-14.27%	-12.79%
3. RETURN ON CAPITAL EMPLOYED (Cash, Restricted Cash and Short Term Investments were Subtracted from Total Liabilities + Shareholders Equity)								
Return on Capital Employed Using EBITDA (Earnings Before Interest, Taxes and Depreciation & Amortization)								
EBITDA (\$M)	\$ 777	\$ 724	\$ 874	\$ 863	\$ 1,015	\$ 1,066	\$ 1,247	\$ 1,966
Average Capital Employed (\$M)	\$ 5,538	\$ 5,970	\$ 6,604	\$ 7,786	\$ 9,139	\$ 10,041	\$ 10,652	\$ 11,172
RoCE, EBITDA	14.09%	12.19%	19.29%	11.08%	11.11%	10.62%	11.71%	12.29%
Return on Capital Employed Using Fully Taxed Net Income								
Fully Taxed Net Income (\$M)	\$ 149	\$ 181	\$ 99	\$ 89	\$ 44	-\$ 14	\$ 41	\$ 107
Average Capital Employed (\$M)	\$ 5,538	\$ 5,970	\$ 6,604	\$ 7,786	\$ 9,139	\$ 10,041	\$ 10,652	\$ 11,172
RoCE, NI	2.69%	9.09%	1.49%	1.07%	0.48%	-0.14%	0.98%	0.95%
Return on Capital Employed Using Fully Taxed Operating Cash Flow								
Fully Taxed Operating Cash Flow (\$M)	\$ 382	\$ 476	\$ 360	\$ 541	\$ 375	\$ 414	\$ 549	\$ 669
Average Capital Employed (\$M)	\$ 5,538	\$ 5,970	\$ 6,604	\$ 7,786	\$ 9,139	\$ 10,041	\$ 10,652	\$ 11,172
RoCE, OCF	6.90%	7.97%	5.44%	6.95%	4.10%	4.12%	5.15%	5.98%
Return on Capital Employed Using Fully Taxed Free Cash Flow								
Fully Taxed Free Cash Flow (\$M)	-\$ 134	-\$ 129	-\$ 594	-\$ 729	\$ 843	-\$ 490	-\$ 313	-\$ 295
Average Capital Employed (\$M)	\$ 5,538	\$ 5,970	\$ 6,604	\$ 7,786	\$ 9,139	\$ 10,041	\$ 10,652	\$ 11,172
RoCE, FCF	6.90%	7.97%	5.44%	6.95%	4.10%	4.12%	5.15%	5.98%

Source: Company Financial Statements. Taxes were calculated using current federal and provincial rates applied retroactively for comparability.

As the following Table 5 shows, the ratios of debt to equity, total debt to EBITDA, and the growth rate of debt divided by the growth in EBITDA have all shown worrisome trends. There are still two more years of substantial capital spending to go, albeit

with much lower funding needs than in the past. The rest of this study will address how SaskPower, and its owner the provincial government, might have to grapple with its debt, and not let it get out of hand again.

Table 5

Solvency, Interest Coverage, Capital Expenditure Coverage

Financial Strength and Solvency	2010	2011	2012	2013	2014	2015	2016	2017
Debt/Equity	224%	235%	275%	287%	344%	386%	387%	382%
Debt/Total Assets	69%	70%	73%	74%	77%	79%	79%	79%
Debt/Total Capital Employed	69%	70%	73%	74%	77%	80%	80%	79%
EBITDA/Finance Charges	405%	368%	426%	329%	311%	278%	300%	328%
EBITDA/Finance Charges+Capex	110%	90%	75%	57%	66%	83%	98%	99%
Quick Ratio (Current Assets – Inventories)/Current Liabilities	46%	35%	21%	21%	21%	27%	30%	30%
Quick Ratio Excluding “Restricted Cash”	46%	35%	21%	21%	21%	27%	30%	30%
EBITDA/Net Interest Paid	355%	315%	369%	272%	262%	205%	295%	314%
Pre-Tax Operating Cash Flow/Net Interest Paid	200%	236%	167%	180%	101%	79%	133%	163%
Total Debt/EBITDA	507%	605%	585%	739%	739%	777%	695%	665%
Growth in Debt/Growth in EBITDA	52%	-162%	81%	-1974%	99%	210%	27%	50%

Source: Company Financial Statements. Debt and Equity are the averages for the year. Taxes were calculated using current federal and provincial rates applied retroactively for comparability.

STRATEGIES AND ALTERNATIVES FOR COMMERCIALIZATION, DIVESTITURE OR PRIVATIZATION

1. Partial divestment

Quite often when a state-owned enterprise is divested or 'privatized', it is not done entirely at once. This is because it may not be possible to sell the whole company into the stock market and get the maximum price for the seller, especially if the firm has assets in the billions of dollars, or if there are unusual aspects to the nature of the company, or the circumstances in which it operates. Hence, an initial, small minority allotment of shares are sold to help establish at least a crude market valuation of the company's shares as they become openly traded.

However, having a majority stake retained by a government introduces some doubt about the true independence and commercial status of the partially divested firm. There could be fear on the

part of investors that politicians may interfere with the strategy or operations of the firm. This could result in there being a discount that the firm's shares suffer in the market. There are no such issues obvious at SaskPower, but there is a history of strong government intervention in the provincial economy, which fostered investor wariness in the 1970's and beyond.

Selling part or all of the company, with much of the proceeds used to reduce the debt, would make the company much healthier, and also allow it to fetch a higher price upon its sale, benefiting Saskatchewan citizens, ratepayers and taxpayers. Hence, a couple of different scenarios were explored. For reference, the three scenarios are laid out in the simple table below.

Table 6			
Three Cases: Debt Level As Is; One Quarter of Long-term Debt Gone; Half of Long-term Debt			
Fiscal Year 2019	As Is	One Quarter Long-term Debt/Retired	Half Long-term Debt/Retired
Revenue	\$ 2,759	\$ 2,759	\$ 2,759
EBITDA	\$ 1,366	\$ 1,366	\$ 1,366
Finance Charges	\$ 412	\$ 334	\$ 256
Other Expenses	\$ 800	\$ 800	\$ 800
Pre-tax Income	\$ 154	\$ 232	\$ 310
Income Tax	\$ 42	\$ 63	\$ 84
Net Income	\$ 112	\$ 169	\$ 226
Operating Cash Flow	\$ 751	\$ 808	\$ 865
Capex	-\$ 1,003	-\$ 1,003	-\$ 1,003
Free Cash Flow	-\$ 252	-\$ 195	-\$ 138

Alternative Scenario One:

One Quarter Long-term Debt Retired; Proceeds Net of Debt Paid Back

Table 7

Intrinsic Value, One Quarter of Long Term Debt Extinguished; Net Proceeds

CASE 1: Present Value of Projected Fully Taxed Net Income as a Proxy for Free Cash Flow for FY2019 (\$B); One Quarter of Long-term Debt Retired

Present Value of Discounted Free Cash Flow = Estimated Next Year Free Cash Flow (Required Rate of Return [r] = Growth Rate [g])

Projected Fully Taxed Net Income as a Proxy for FCF for FY2019 (\$B): \$ 0.1694

Matrix Values (\$B) $g=v; r=>$	4.00%	5.00%	6.00%	7.00%	8.00%	9.00%	10.00%
0.00%	\$ 4.24	\$ 3.39	\$ 2.82	\$ 2.42	\$ 2.12	\$ 1.88	\$ 1.69
1.00%	\$ 5.65	\$ 4.24	\$ 3.39	\$ 2.82	\$ 2.42	\$ 2.12	\$ 1.88
2.00%	\$ 8.47	\$ 5.65	\$ 4.24	\$ 3.39	\$ 2.82	\$ 2.42	\$ 2.12
3.00%	\$ 16.94	\$ 8.47	\$ 5.65	\$ 4.24	\$ 3.39	\$ 2.82	\$ 2.42
4.00%	--	\$ 16.94	\$ 8.47	\$ 5.65	\$ 4.24	\$ 3.39	\$ 2.82
5.00%	-\$ 16.94	--	\$ 16.94	\$ 8.47	\$ 5.65	\$ 4.24	\$ 3.39
6.00%	-\$ 8.47	-\$ 16.94	--	\$ 16.94	\$ 8.47	\$ 5.65	\$ 4.24
7.00%	-\$ 5.65	-\$ 8.47	-\$ 16.94	--	\$ 16.94	\$ 8.47	\$ 5.65
	Minimum		Maximum		Median		Mean (Average)
Gross Value (\$B)	\$ 2.42		\$ 16.94		\$ 4.24		\$ 5.45
Minus Sale Proceeds Used to Retire One Quarter Long-term Debt	\$ 1.45		\$ 1.45		\$ 1.45		\$ 1.45
Net Value (\$B)	\$ 0.97		\$ 15.49		\$ 2.78		\$ 4.00

Source: Calculations from model derived from Company Annual Reports.

This Scenario One for the intrinsic value yields (net of the amount of proceeds used to extinguish one quarter of the firm's long-term debt) a minimum of \$970M to a maximum of \$15.49B, with a more

plausible range of a median (midpoint of the array of projected values) of \$2.78B to a mean (simple average) of \$4.00B.

Table 8

Market Value, One Quarter of Long-term Debt Extinguished; Net Proceeds

Valuation metrics applied to SaskPower; ie, Market Value of Common Equity. Figures in \$B; 1/4 of LTD Extinguished	Trailing P/E (Market Value to Net Income)	Forward P/E (Market Value to Estimated Net Income)	Price to Sales	Price to Book Value	Enterprise Value/Revenue (subtracting net debt)	Enterprise Value/EBITDA (subtracting net debt)
Average Seven Canadian Renewable-Dominated Utility Companies	\$ 2.78	\$ 3.06	\$ 5.84	\$ 5.84	\$ 5.82	\$ 4.60
Average Six Canadian Non-and-Renewable-Dominated Utility Companies	\$ 8.73	\$ 7.86	\$ 12.44	\$ 12.44	\$ 11.56	\$ 19.32
Average Thirty-four US-Listed Non-Renewable-Dominated Utility Companies	\$ 5.12	\$ 3.31	\$ 5.12	\$ 5.12	\$ 3.31	\$ 15.03
Average of All Above	\$ 5.28	\$ 3.92	\$ 7.39	\$ 7.39	\$ 13.13	\$ 4.63

Market Value Using Comparable Companies and Six Viable Valuation Ratios

	Minimum	Maximum	Median	Mean (Average)
Gross Value (\$B)	\$ 3.92	\$ 13.13	\$ 6.34	\$ 6.96
Minus Sale Proceeds Used to Retire One Quarter Long-term Debt	\$ 1.45	\$ 1.45	\$ 1.45	\$ 1.45
Net Value (\$B)	\$ 2.47	\$ 11.68	\$ 4.88	\$ 5.51

Source: Capital IQ via Yahoo!Finance, additional material from BMO-Investorline, Valuation model formulae.

This Scenario One for the market value method yields (net of the amount of proceeds used to extinguish one quarter of the firm's long-term debt) a minimum of \$2.47B to a maximum of \$11.68B,

with a more plausible range of a median (midpoint of the array of projected values) of \$4.88B to a mean (simple average) of \$5.51B.

Alternative Scenario Two:

One Half Long-term Debt Retired; Proceeds Net of Debt Paid Back

Table 9

Intrinsic Value, One Half of Long-term Debt Extinguished; Net Proceeds

CASE 2: Present Value of Projected Fully Taxed Net Income as a Proxy for Free Cash Flow for FY2019 (\$B); Half of Long-term Debt Retired

Present Value of Discounted Free Cash Flow = Estimated Next Year Free Cash Flow (Required Rate of Return [r] = Growth Rate [g])

Projected Fully Taxed Net Income as a Proxy for FCF for FY2019 (\$B): \$ 0.2265

Matrix Values (\$B) $g=v; r=>$	4.00%	5.00%	6.00%	7.00%	8.00%	9.00%	10.00%
0.00%	\$ 4.24	\$ 3.39	\$ 2.82	\$ 2.42	\$ 2.12	\$ 1.88	\$ 1.69
1.00%	\$ 5.65	\$ 4.24	\$ 3.39	\$ 2.82	\$ 2.42	\$ 2.12	\$ 1.88
2.00%	\$ 8.47	\$ 5.65	\$ 4.24	\$ 3.39	\$ 2.82	\$ 2.42	\$ 2.12
3.00%	\$ 16.94	\$ 8.47	\$ 5.65	\$ 4.24	\$ 3.39	\$ 2.82	\$ 2.42
4.00%	--	\$ 16.94	\$ 8.47	\$ 5.65	\$ 4.24	\$ 3.39	\$ 2.82
5.00%	-\$ 16.94	--	\$ 16.94	\$ 8.47	\$ 5.65	\$ 4.24	\$ 3.39
6.00%	-\$ 8.47	-\$ 16.94	--	\$ 16.94	\$ 8.47	\$ 5.65	\$ 4.24
7.00%	-\$ 5.65	-\$ 8.47	-\$ 16.94	--	\$ 16.94	\$ 8.47	\$ 5.65
	Minimum	Maximum	Median	Mean (Average)			
Gross Value (\$B)	\$ 2.42	\$ 16.94	\$ 4.24	\$ 5.45			
Minus Sale Proceeds Used to Retire Half Long-term Debt	\$ 1.44	\$ 1.44	\$ 1.44	\$ 1.44			
Net Value (\$B)	\$ 0.98	\$ 15.51	\$ 2.80	\$ 4.01			

Source: Calculations from model derived from Company Annual Reports.

This Scenario Two yields (net of the amount of proceeds used to extinguish one quarter of the firm's long-term debt) a minimum of \$980M to a maximum of \$15.51B, with a more plausible range of a median (midpoint of the array of projected values) of \$2.80B to a mean (simple average) of \$4.01B.

Table 10

Market Value, One Half of Long-term Debt Extinguished; Net Proceeds

Valuation metrics applied to SaskPower; ie, Market Value of Common Equity. Figures in \$B; 1/2 of LTD Extinguished	Trailing P/E (Market Value to Net Income)	Forward P/E (Market Value to Estimated Net Income)	Price to Sales	Price to Book Value	Enterprise Value/Revenue (subtracting net debt)	Enterprise Value/EBITDA (subtracting net debt)
Average Seven Canadian Renewable-Dominated Utility Companies	\$ 2.78	\$ 3.06	\$ 5.84	\$ 5.84	\$ 5.82	\$ 4.60
Average Six Canadian Non-and-Renewable-Dominated Utility Companies	\$ 8.73	\$ 7.86	\$ 12.44	\$ 12.44	\$ 11.56	\$ 19.32
Average Thirty-four US-Listed Non-Renewable-Dominated Utility Companies	\$ 5.12	\$ 3.31	\$ 5.12	\$ 5.12	\$ 3.31	\$ 15.03
Average of All Above	\$ 5.28	\$ 3.92	\$ 7.39	\$ 7.39	\$ 13.13	\$ 4.63
Market Value Using Comparable Companies and Six Viable Valuation Ratios						
	Minimum	Maximum	Median	Mean (Average)		
Gross Value (\$B)	\$ 3.92	\$ 13.13	\$ 6.34	\$ 6.96		
Minus Sale Proceeds Used to Retire One Half Long-term Debt	\$ 1.44	\$ 1.44	\$ 1.44	\$ 1.44		
Net Value (\$B)	\$ 2.48	\$ 11.69	\$ 4.90	\$ 5.52		

Source: Capital IQ via Yahoo!Finance, additional material from BMO-Investorline, Valuation model formulae.

For easier comparison, the three cases are presented together in the following table:

Table 11						
Comparison of Intrinsic & Market Values for One Quarter, Half & No Debt Reduction						
Figures in \$B.	Intrinsic Value (Average of Mean & Median)			Market Value (Average of Mean & Median)		
				2018 Valuation=v	2019 Valuation=v	2019 Valuation=v
	No Extinguishing of L-T Debt	Extinguishing of 1/4 of L-T Debt	Extinguishing of 1/2 of L-T Debt	No Extinguishing of L-T Debt	Extinguishing of 1/4 of L-T Debt	Extinguishing of 1/2 of L-T Debt
Gross Value (Average of Mean & Median)	\$ 3.01	\$ 4.84	\$ 4.84	\$ 6.31	\$ 6.65	\$ 7.36
Minus Sale of Proceeds Used to Retire Debt	\$ 0.00	\$ 1.45	\$ 1.44	\$ 0.00	\$ 1.45	\$ 1.44
Net Value	\$ 3.01	\$ 3.39	\$ 3.41	\$ 6.31	\$ 5.19	\$ 5.92

Calculations used models incorporating financial results from company Annual Reports, key financial statistics from peer companies.

It is apparent that the optimum amount of debt to be extinguished would be one half of long-term debt, but only using the Intrinsic Value method. Otherwise, it may not make sense. However, a more sophisticated sensitivity analysis could determine a

different proportion. Generally, the lower the debt, the more attractive and salable the company will be, which may not be something that can be shown in any of the analyses above.

2. Break-up: Geographic, by Asset Type, Other

SaskPower is a highly integrated entity, and does not serve a very large market. Hence, it probably

does not improve the marketability of the whole company to split it up.

3. Disruptions from evolving competitive and technological forces

The greatest disruptions affecting the electrical power generating industry currently are a mix of commercial, regulatory, and technological developments. The cost of solar, wind, and other renewable energy has been steadily and substantially declining, and is projected to continue in this trajectory.^{18/19} New forms of energy storage, and falling prices of batteries, will make these renewable sources more practical and commercially viable, as well as enable some other new developments outlined later on in this study. Efficiency improvements in horizontal drilling and hydraulic fracturing, 'fracking', have helped American shale oil production soar, and the associated gas along with it. This is also becoming a major phenomenon in Canada, and in SaskPower's service area in the southeast part of the province; part of the famous Bakken formation which has made neighbouring North Dakota a major gas and oil producer. This abundance of gas is a key competitor to many other forms of energy and is projected to remain in surplus for decades, even if exports from North America increase.²⁰

While cost is a major attractive feature of natural gas, the flexibility of gas-fired generation is another key factor in its increasing acceptance and big increase in the total generation capacity of North America in the past several years. This flexibility is also very helpful in dealing with the intermittent and undependable nature of renewable power, in that gas generation can be ratcheted up or down without much disruption to the utility. SaskPower is already attuned to this development; much of its new capacity is gas-fired, and highly flexible.

New or improved batteries will also make it easy for SaskPower and other utilities to handle demand fluctuation, as well as supply fluctuation; the latter from renewable sources, and there could even be faster growth in capital expenditure on storage than generating capacity in the next few years.²¹ However, this revolution in batteries will also enable customers, even relatively small ones, such as small businesses, hotels, hospitals, retirement homes, office buildings and apartment complexes, smooth out their electricity purchases, and buy when costs are lower. It can also enable them to adopt renewable sources such as rooftop solar panels, and potentially go 'off-grid'. This could be a challenge for the firm in the future.

Other challenges are increasingly affordable fuel cell-type small electric generating facilities using natural gas (there are several competing technologies, many of which are commercially available), or larger, more conventional co-generation ones that also produce heat for industrial or other purposes. As natural gas is available nearly everywhere in SaskPower's territory, it could become a rival to it, unless it gets involved in this line of business itself. Another threat, or opportunity, is merchant power. Customers in Alberta, Washington State, Idaho, and elsewhere already take advantage of this. SaskPower is already a customer of independent power producers; further market deregulation could make them its competitors, for good or ill. There is another opportunity it has not exploited: nuclear. As the second largest uranium producing jurisdiction in the world, it could have a competitive advantage, particularly with the new generation of small modular reactors, 'SMR's'.

4. Ready for Sale

Utilities usually pay a dividend to investors. The company is showing sufficient income statement accounting-based net income to pay a small dividend, but, given current low cash generation, investors may not consider the dividend sustainable. So, some investors that like a substantial and growing dividend may not find SaskPower attractive once it is floated, if its Board decides that it cannot afford such a dividend. The company currently has negative free cash flow and low returns on assets, equity and capital employed. There may need to be operational improvement to improve margins before the company issues any equity to the public so that higher value can be realized in any such sale.

It is not crucial that the company has positive free cash flow, but improving operating cash flow (cash income before capital expenditures) will be encouraging to prospective investors. If the company has a credible plan to improve its fleet of assets and to address most, if not all, of the challenges noted above in its competitive strategy, and can show it can be resilient if electric demand growth is slow, variable or customers are fickle, then it can be sold at an attractive valuation for the seller, even if the growth outlook is modest and the array of threats noted earlier remain formidable. However, the low metrics for returns on capital are cautionary; they need to be improved, or there needs to be a logical and confidence-inspiring plan to do so.

CONCLUSION

In general, entirely private sector companies tend to perform better than those within the government orbit or ownership. Crown ownership of a company exposes taxpayers, citizens, and even customers and suppliers to the risks of business and economic and technological trends that are unnecessary to experience; that is what private investors, institutional, individual or corporate undertake in nearly every sector of the economy. In the past, these sorts of risks did not seem to apply to such a staid, dull, slow-change industry such as electric utilities. That is not true anymore.

Merchant power producers are stirring up change, and regional governments in North America are encouraging them to compete with the established utilities such as SaskPower. In addition, large and now even some smaller consumers of power are entertaining the idea of producing some or all of their own power. New advances in battery technology and natural gas generation are making that feasible. There is not much of a case to be made to finance such expansion in Saskatchewan, given projected low demand growth for electricity in North America. The company is being nimble, given its pilot foray into carbon sequestration, and wind, solar, and 'peaking' gas-fired power. It has also made investments in 'smart-grid' management, which should help it adjust to a more variable, less predictable demand and supply future.

Even harder to do will be to make SaskPower, whether or not it is divested in whole or in part, a flexible, versatile, dynamic, and fast-evolving competitive, customer-responsive player in the new energy marketplace, given its limited potential roster of customers. It could actually become so, as its large fleet of gas-fired generation plants make it a flexible ideal 'virtual battery' for intermittent wind and solar power elsewhere in North America. This may require additional capital investment, and of the right kind (possibly expensive and extensive high voltage direct current (HVDC) transmission lines), with the right strategy, to become successful and a valuable company for its new owners, or at least, to become not a burden if it stays a Crown entity.

While there is no history of major political meddling in SaskPower or its predecessors, if the company is divested the government must explicitly state that it will forswear any such intervention. True independence is crucial.

That independence and removal of the risk of bad governance can only be guaranteed if SaskPower is totally removed from politicians' clutches; i.e., if it is fully divested to other, private sector investors. The province will almost certainly have to do so anyway, as SaskPower's future, while it should be in jeopardy in the short term, it is highly uncertain to be in the long term as this industry evolves and mutates. Taxpayers, as the ultimate shareholders, should not have to bear this risk. There are many utilities in the private sector. SaskPower would be a fine addition to that array of peers and competitors.

APPENDIX 1:

RATIONALE FOR DIVESTITURE OR PRIVATIZATION

While it is up to the people through their elected representatives to decide if a Crown corporation or other government agency or entity should be sold or otherwise privatized and the proceeds used for the benefit of all citizens and taxpayers, there are some established reasons to embark on such a path, some or all of which are cited for divestiture of such enterprises but may not be applicable in any single, specific case.

1. The government has no mandate to own or run a commercial enterprise. The provision of citizens' safety, security and justice is the government's primary role, and its involvement in the economy should generally not extend beyond this.
2. Regulation can usually accomplish any public policy reason for direct involvement in an industry. If regulation is not easily feasible, then a direct contract or subsidy to any affected individuals, entity or entities may be more efficient or effective and less economically disruptive or costly.
3. If a government-controlled or sponsored enterprise has a monopoly position, near-monopoly, or effective monopoly in a line or lines of business or businesses, then opportunities are lost in one or more commercial or potentially commercial sectors for entrepreneurs and investors to try to create and grow businesses to enrich and sustain themselves, employees, suppliers, and others.
4. A monopoly, near-monopoly, or effective monopoly market position by a government-owned or sponsored entity could result in far higher prices for customers, the general public, or a section of the public, than would be the case in a fully competitive marketplace for the industry involved.
5. A government-owned or -sponsored enterprise may compete directly against private sector firms, which are owned by or employ citizens, or against individual citizens, all of whom the government is supposed to serve, not disadvantage.
6. The government-owned or -sponsored enterprise may compete unfairly against its private sector rivals in that it had or has access to lower-cost government-sourced and -guaranteed capital (debt). It may have a much larger debt component in its capital versus that which would be tolerated in the private sector. Thus, it may not have to meet high standards for profit and cost control, allowing it to offer lower than true free market-based competitive pricing.
7. Government-owned firms may not need to pay provincial or federal income taxes. This can allow such firms to supply goods or services more cheaply than the private sector companies they are competing with.
8. Government-owned or -sponsored enterprises may not have any kind of profit orientation or target, may be used as public policy vehicles and may be given preference in their activities or even in their transgressions, such as labour or environmental abuses.
9. Government-owned or -sponsored enterprises, by virtue of being public sector vehicles overseen by bureaucrats and politicians, may be places where favoured individuals find employment, particularly at management levels.
10. Since profit is a secondary goal of a government-owned or -sponsored enterprise, it is difficult to evaluate the effectiveness, efficiency or productivity of the enterprise or its employees. Consequently, these employees and assets may not be very productive or effective.

11. Government-owned or -sponsored enterprises are often creations of certain time-fixed circumstances and outlive whatever use or public policy role their creators may have conceived. Often, advances in technology; the modernization of transport, telecommunication or information technology; the evolution of the economy and available products and services and the increasing standard of living make these enterprises potentially obsolete. In the private sector, firms and individuals must adapt and evolve, or decline.
12. Government-owned or -sponsored enterprises perpetuate their possibly obsolete existences by virtue of the constituencies that build up around them: employees, managers, directors and bureaucrats, customers, suppliers and associated advocates or consultants. They can lobby to keep the enterprise going, despite dysfunction or losses. They are far more motivated to do so than are the taxpayers, whose average cost is much less per person and may be indirect, hidden or difficult to calculate.
13. Because they are not profit-oriented, government-owned or -sponsored enterprises are usually less efficient, and thus they lower the overall efficiency of the entire economy. This can make a whole nation less competitive than its global rivals are, whether nations or individual companies. The effects are worse the greater the government involvement in the economy. When taken to its most extreme, as happened in 20th-century communist nations, the countries were unable to compete against capitalist companies, despite their immense direct and indirect subsidies, government support and the lack of profit requirement.
14. Funds tied up in the capital of government-owned or -sponsored enterprises could be used to reduce government debt or lower taxes on individuals or corporations, which they could then spend or invest as they freely choose, and thus they could inject money back into the economy in more-lucrative and -constructive ways.
15. Governments, generally, have a poor record of picking winners, or creating or owning enterprises that have market-competitive profitability, or attractive returns on assets, equity, or even returns that exceed governments' own cost of debt service. If, rarely, they actually do, it generally turns out that they have been provided unusually good market, operational, regulatory, or other conditions not available to other, investor-owned firms.
16. The greater the number and size of government owned or government sponsored enterprises in an economy, the greater the size and power of the government, which is usually the largest single entity in society, increasing the dangers of abuse of power, including injuring individual citizens, companies, or groups. Effective capacity of opposition or recourse against this power diminishes as the portion of the economy the government occupies increases.

ENDNOTES

1. See: https://www.saskpower.com/about-us/our-company/~link.aspx?_id=29E795C8C20D48398EAB5E3273C256AD&_z=z pg. 10.
2. See: <https://www.instagram.com/p/-maCVyuPh-/h>.
3. See: https://www.instagram.com/p/_SUozYuPIY/.
4. See: https://www.instagram.com/p/_SWAYkOPoc/.
5. See: https://www.instagram.com/p/_ZbgMpuPrq/.
6. See: https://www.instagram.com/p/_Zc3OGOPun/.
7. See: https://www.instagram.com/p/_W7Hz-OPs2/.
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18. See: <http://www.reeem.org/wp-content/uploads/2018/04/Pablo-Ralon-IRENA.pdf>.
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20. See: <https://www.mckinsey.com/solutions/energy-insights/north-american-gas-outlook-to-2030>.
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