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PUBLIC CHOICE ALTERNATIVES

Always Building, Payoff Deferred A VALUATION OF YUKON ENERGY CORPORATION

BY IAN MADSEN



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EXECUTIVE SUMMARY

Yukon Energy Corporation (YEC) is a sprawling generator and distributor of electric power to customers in Yukon Territory. It could be worth as much as \$212M were it divested, making the assumption that its chronic heavy capital investment program will end soon. As a business, making the very optimistic assumption that it can turn its stated net income into free cash flow, its value, on a fully taxed basis (as a Crown corporation, it pays no tax, now), is estimated between \$165-\$212M. Using nineteen comparable Canadian and US-listed hydroelectric-dominated and other utility firms, the market value range is \$155-\$158M. This last narrow range should not be construed as having high accuracy; these are just estimates.

INTRODUCTION

Yukon Energy Corporation (YEC) is a territorial government-owned electrical utility founded in 1987. Its headquarters is located near the Whitehorse Rapids hydro plant in Whitehorse. It is the main generator and transmitter of electrical energy in the territory. Yukon Energy works with Yukon Development Corporation to provide energy for Yukoners. There is a focus on renewable sources of power and energy solutions that complements legacy hydro assets of Yukon Energy.¹

Yukon Energy serves about 1,800 consumers out of almost 15,000 electricity consumers in the territory. The population of Yukon Energy's consumers live in and around Dawson City, Mayo and Faro. Yukon Energy indirectly serves other communities through its main distributor-ATCO Electric. It generates power but shares responsibility of distribution with ATCO. In other words, ATCO buys wholesale power from Yukon Energy and sells it to retail customers in the territory.²

Yukon Energy possesses the capacity to generate about 133 megawatts of power. Diesel generators and liquified natural gas used only as backup generate 31 megawatts and 9 megawatts respectively. Wind turbine energy generates less than 1 megawatt.³

Yukon Energy, A History

The beginnings of Yukon Energy can be traced to the completion of the White Pass and Yukon Railway from Skagway to Whitehorse, which made it possible to easily transport heavy equipment necessary to build hydroelectric facilities. Within the same period, Yukon Electrical Company Ltd. (YECL), started generating electricity for people in Whitehorse using a wood-fired engine. However, power supply was limited. The introduction of household appliances in the 1930s increased power demands in the Whitehorse area and, in 1935, the company began to supply power on a 24-hour basis.

In 1948, the federal government established the Northwest Territories Power Commission, later called the Northern Canada Power Commission. The federal government believed that the Yukon Electrical Company Ltd. lacked the financial means to meet the increasing demand for power in the territory. In 1951, the Northern Canada Power Commission built the Mayo hydro plant to serve the United Keno Mine in Elsa.

In 1958 the Northern Canada Power Commission completed and began operating the Whitehorse hydro dam. As a result, power rates in Yukon fell by about 16 percent. Round about this time, Yukon Electrical Company Ltd. was sold to Canadian Utilities, an Alberta firm. With the takeover of CU in 1980 by ATCO, Yukon Electrical Company became part of the ATCO group.

What is known today as Yukon Energy was established in 1987, as the Northern Canada Power Commission's assets in Yukon were devolved to the territorial government, thence folded into Yukon Energy. Following that, Yukon Energy requested that Yukon Electrical Company Ltd. (ATCO) manage and operate its facilities for ten years. Since 1997, Yukon Energy operates and manages its own assets while Yukon Electrical Company is the main distributor.⁴

1. Yukon Energy. "Who We Are". <https://yukonenergy.ca/about-us/who-we-are>.

2. *Ibid.*

3. Yukon Energy. "2015 Annual Report". Pg. 4. https://yukonenergy.ca/media/site_documents/Yukon_Energy_Annual_Report_2015.

4. "The History of Power in Yukon". https://yukonenergy.ca/about-us/news-events/the_history_of_power_in_yukon.

VALUATION FACTORS

The valuation of YEC is not straightforward. Its net income has been erratic. Sometimes it is substantial, sometimes it is negative. The same

holds true for operating cash flow. As for free cash flow, which is operating cash flow minus capital expenditure, it is usually negative.

INTRINSIC, DISCOUNTED FREE CASH FLOW VALUE OF YEC:

Version 1: Intrinsic Value of YEC, Using Discounted Projected Free Cash Flow, 'As Is'

Using the present value of projected future free cash flows, as is, the corporation's fully taxed value could range from -\$1,267M to -\$181M, with a median value of -\$316.79M and a mean value of -\$407.70M. As the company has moderate, if erratic growth, and chronically spends more on capital

equipment than it generates in free cash flow, it is not possible to estimate the value of the company as a cash generating enterprise as is. The ranges shown in bold in the table were zeroed in on for analysis.

Table 1								
Intrinsic Value, Using Fully Taxed Free Cash Flow								
Using Fully Taxed Free Cash Flow, 'As Is'.								
Valuation Matrix - Present Value of Discounted Free Cash Flow = Estimated Next Year Free Cash Flow (Required Rate of Return = Growth Rate)								
Projected Free Cash Flow for 2017 (\$M): -\$ 12.67								
Matrix Values (\$M) g==v; r==>	4.00%	5.00%	6.00%	7.00%	8.00%	9.00%	10.00%	
0.00%	-\$ 316.79	-\$ 253.43	-\$ 211.19	-\$ 181.02	-\$ 158.39	-\$ 140.79	-\$ 126.71	
1.00%	-\$ 422.38	-\$ 316.79	-\$ 253.43	-\$ 211.19	-\$ 181.02	-\$ 158.39	-\$ 104.79	
2.00%	-\$ 633.57	-\$ 422.38	-\$ 316.79	-\$ 253.43	-\$ 211.19	-\$ 181.02	-\$ 158.39	
3.00%	-\$ 1,267.15	-\$ 633.57	-\$ 422.38	-\$ 316.79	-\$ 253.43	-\$ 211.19	-\$ 181.02	
4.00%	--	-\$ 1,267.15	-\$ 633.57	-\$ 422.38	-\$ 316.79	-\$ 253.43	-\$ 211.19	
5.00%	\$ 1,267.15	--	-\$ 1,267.15	-\$ 633.57	-\$ 422.38	-\$ 316.79	-\$ 253.43	
6.00%	\$ 42.46	\$ 1,267.15	\$ --	-\$ 1,267.15	-\$ 633.57	-\$ 422.38	-\$ 316.79	
7.00%	\$ 422.38	\$ 42.46	\$ 1,267.15	\$ --	-\$ 1,267.15	-\$ 633.57	-\$ 422.38	
		Minimum	Maximum	Median	Mean (Average)			
Estimated Total Value		-\$ 1,267.15	-\$ 181.02	-\$ 316.79	-\$ 407.70			

Source: Company annual reports, consultant projections and modelling.

Note on range of growth rate, "g", above: Operating Cash Flow and Net Income have been growing erratically, but for the long-term the growth rate is likely to be roughly in line with the nominal economic growth rate, assumed here to be 2-4%.

Note on range of required or expected rate of return or discount rate or cost of capital, "r", above: This is a notional range of projected likely long-term stock market growth rate and the equity risk premium over high yield unsecured ("junk") bonds.

VERSION II:

Intrinsic Value of YEC, Using Projected Net Income as Free Cash Flow Proxy

Using the present value of projected future net income as a proxy for free cash flow, which is being very generous to the current and future state of the company, the corporation's fully taxed value could range from \$94M to \$659M, with a median value of \$165M and a mean value of \$212M. The ranges

shown in bold in the table were zeroed in on for analysis. As the firm's financial history is erratic and its capital expenditure and customer demand reliability are hard to project, a conservative view of its value and choice of the figures presented is recommended.

Table 2							
Intrinsic Value, Using Fully Taxed Projected Net Income as Proxy for Free Cash Flow							
Valuation Matrix - Presented Value of Discounted Free Cash Flow = Estimated Next Year Free Cash Flow (Required Rate of Return = Growth Rate)							
Projected Fully Taxed 'Free Cash Flow' Proxy (actually net income) for 2017 (\$M): \$ 6.59							
Matrix Values (\$M) g==v; r==>	4.00%	5.00%	6.00%	7.00%	8.00%	9.00%	10.00%
0.00%	\$ 164.73	\$ 131.79	\$ 109.82	\$ 94.13	\$ 82.37	\$ 73.21	\$ 65.89
1.00%	\$ 219.64	\$ 164.73	\$ 131.79	\$ 109.82	\$ 94.13	\$ 82.37	\$ 73.21
2.00%	\$ 329.47	\$ 219.64	\$ 164.73	\$ 131.79	\$ 109.82	\$ 94.13	\$ 82.37
3.00%	\$ 658.93	\$ 329.47	\$ 219.64	\$ 164.73	\$ 131.79	\$ 109.82	\$ 94.13
4.00%	--	\$ 658.93	\$ 329.47	\$ 219.64	\$ 164.73	\$ 131.79	\$ 109.82
5.00%	-\$ 658.93	--	\$ 658.93	\$ 329.47	\$ 219.64	\$ 164.73	\$ 131.79
6.00%	-\$ 329.47	-\$ 658.93	\$ --	\$ 658.93	\$ 329.47	\$ 219.64	\$ 164.73
7.00%	-\$ 219.64	-\$ 329.47	-\$ 658.93	\$ --	\$ 658.93	\$ 329.47	\$ 219.64
		Minimum	Maximum	Median	Mean (Average)		
Estimated Total Value		\$ 94.13	\$ 658.93	\$ 164.73	\$ 212.01		
Note on range of growth rate, "g", above: Operating Cash Flow and Net Income have been growing erratically, but for the long-term the growth rate is likely to be roughly in line with the nominal economic growth rate, assumed here to be 2-4%.							
Note on range of required or expected rate of return or discount rate or cost of capital, "r", above: This is a notional range of projected likely long-term stock market growth rate and the equity risk premium over high yield unsecured ("junk") bonds.							

MARKET VALUE COMPARISON VALUATION OF YUKON ENERGY

There are several viable comparison firms available for valuing YEC. There are six renewable energy utility companies listed in Canada, and another six non-renewable energy utilities. There are also seven hydroelectric and wind energy-dominated utilities listed in the United States.

Eight standard market valuation metrics were initially used, including Trailing Price to Earnings ratio and Forward Price to Earnings ratios (P/E); Price to Sales (P/S) ratio; Price to Book Value (P/BV); Enterprise Value to Revenue (EV/Rev), Enterprise Value to Earnings Before Interest, Depreciation and Amortization (EV/EBITDA), and Price to Operating and Free Cash Flow (P/CF, P/FCF) (please consult the accompanying valuation spreadsheet file in Excel for details).

The **corporation's estimated full taxed value** could range from \$78M to \$226M, with a mean value of \$155M and a median value of \$158M. The very tight range of the latter two numbers should not be construed as giving any sort of image of precision to the figures; they are just estimates.

One metric had to be discarded due to insufficient information on either the comparator companies or YEC, or the inapplicability of the ratio to either the comparators or YEC, or negative or otherwise anomalous results. Seven ratios were ultimately used: trailing P/E (price-to-earnings), forward P/E, P/S (price to sales), P/BV (Price to Book Value), EV/Revenue, (Enterprise Value to Revenue), Enterprise Value to EBITDA (EV/EBITDA) and Price to Operating Cash Flow (P/CF). The results are in Table 3, below. The ranges shown in bold in the table were zeroed in on for analysis.

Market Valuation Using Publicly Listed Comparable Company Valuation Metrics							
Valuation metrics applied to Yukon Energy; i.e., market value of common equity. Figures in \$M.	Trailing P/E Market Value to Net Income	Forward P/E (Market Value to Est. Net Income)	Price to Sales	Price to Book Value	Enterprise Value/ Revenue (minus debt)	Enterprise Value/EBITDA (minus debt)	Price to Operating Cash Flow
Average Six Canada-Listed Renewable-Dominated Utilities	\$ 411.49	\$ 208.95	\$ 156.62	\$ 258.10	\$ 253.71	\$ 93.84	\$ 97.16
Average Six Canada-Listed Non-Renewable Power Utilities	\$ 129.27	\$ 225.89	\$ 76.08	\$ 128.87	\$ 130.20	\$ 64.15	\$ 57.67
Average Seven U.S.-Listed Renewable Power Utilities	\$ 82.12	\$ 245.08	\$ 56.87	\$ 126.48	\$ 79.66	\$ 284.00	\$ 79.96
Average of All Above	\$ 207.62	\$ 225.56	\$ 94.44	\$ 168.79	\$ 150.58	\$ 158.21	\$ 78.35
Market Values Using All Comparable Companies, and Seven Viable Valuation Ratios	Mean	Median	Minimum	Maximum			
	\$ 154.79	\$ 158.21	\$ 78.35	\$ 225.56			

CONCLUSION

The decision on whether or not to keep or sell off all, most, or part of a Crown corporation is up to the citizens and taxpayers of the province, or, in this case, of the Yukon Territory.

The company, YEC, is certainly viable. However, a prolonged period of actual positive free cash flow could be needed to give investors greater confidence in its true intrinsic value as a business. Some expertise from outside the company may be needed, either technical or managerial, to rationalize and optimize the company to allow it to realize its full potential and maximum value in

any sale to the public or strategic or institutional investors.

The territorial government of Yukon has many responsibilities and costs associated with them, and over a huge area with a low population and tax base to support them. Yukon Energy is an asset that is salable, and with the proceeds Yukon could lower taxes, hire more doctors, nurses, teachers, or paramedics. Owning a large enterprise that is vulnerable to political meddling and multiple business risks is likely not in the best long-term interests of Yukon taxpayers.

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.

