



PEI ENERGY CORPORATION

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

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PUBLIC CHOICE ALTERNATIVES

Big, Expensive Expansion on a Tiny Island

A VALUATION OF PRINCE EDWARD ISLAND ENERGY

BY IAN MADSEN



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EXECUTIVE SUMMARY

Prince Edward Island Energy, or PEI Energy, is a Crown-owned electric merchant power provider (but not a utility) for Canada's smallest province by area or population. As it is spending heavily on expanding its generation capacity, it has negative free cash flow. Using an **intrinsic value method**, and discounting to the present PEI Energy's projected future net income as a proxy for free cash flows (as would be roughly the case for a mature company), as the company is today, but taxed at statutory rates, the range of estimates is \$92M to \$641M, with a tighter range of a median (midpoint of the array of values) of \$160M to a mean (simple average) of \$206M.

Under the **market-based valuation system**, the current, 'as is'—but now fully taxed—value ranges from \$50M to \$152M, with a median (midpoint of the array of values) of \$95M and a mean (simple average) of \$106M. That the median and mean are close does not mean that there is any great precision to, or authoritativeness of, the determination of these estimates. Five of eight possible valuation metrics (Forward Price to Earnings, 'P/E'; Price to Sales, 'P/S'; Price to Book Value, 'P/BV'; Enterprise Value to Revenue, 'EV/Rev'; and Price to Operating Cash Flow, 'P/CF') were usable.

INTRODUCTION

PEI Energy, A History

The PEI Energy Corporation is charged with developing of on-Island sustainable, efficient energy production, transmission, and distribution, and financing such development on the Island. In practice, until now, this has involved the building of several wind farms and two submarine transmission cables to New Brunswick, nearby.¹ The actual power utility on the Island is Maritime Electric, a subsidiary of Fortis Corporation.²

PEI Energy was created in 1983 or thereabouts, according to its latest Annual Report.³ It has embarked on an aggressive capital expansion program, which has led to its borrowing hundreds of millions of dollars, and made itself heavily dependent on power from onshore wind farms, which is intermittent by its nature. The first farm was North Cape, completed in two phases in 2001 and 2003⁴, the next was East Point in 2008⁵, the latest V-90⁶ and Hermanville/Clearspring in fiscal 2014-15.⁷ The doubling of transmission capacity to the mainland should be completed in 2019.⁸

1. See <https://www.princeedwardisland.ca/en/information/transportation-infrastructure-and-energy/about-peie-energy-corporation>.

2. See <https://www.maritimeelectric.com/about-us/profile/corporate-profile/>.

3. See https://www.princeedwardisland.ca/sites/default/files/publications/peiec_annual_report1718_final_1.pdf.

4. See https://www.princeedwardisland.ca/sites/default/files/publications/peiec_annual_report1718_final_1.pdf, pg. 11.

5. See https://www.princeedwardisland.ca/sites/default/files/publications/peiec_annual_report1718_final_1.pdf, pg. 13.

6. See https://www.princeedwardisland.ca/sites/default/files/publications/peiec_annual_report1718_final_1.pdf, pg. 15.

7. See https://www.princeedwardisland.ca/sites/default/files/publications/peiec_annual_report1718_final_1.pdf, pg. 16.

8. See https://www.princeedwardisland.ca/sites/default/files/publications/peiec_annual_report1718_final_1.pdf, p. 18.

INTRINSIC VALUE: VALUATION OF PEI ENERGY AS A BUSINESS, USING DISCOUNTED FREE CASH FLOW

The intrinsic value model uses a perpetuity with a constant growth rate and constant cost of capital. This is crudely but generally appropriate for a stable company in a slow-growth, mature sector. For the intrinsic value of PEI Energy, projecting future cash flow growth, and bringing it to a net present value, a relatively conservative approach was taken which could undervalue the company (see Table 1).

Each constituent (eg., revenue, cost of goods sold, interest expense, depreciation and amortization, administrative and sales expense) determining the final free cash flow was projected independently. The company's free cash flow growth rate range was held to a restrained 2 to 4 percent, and the required rate of return or cost of capital range was from 5 to 8 percent. PEI Energy's cost of capital, given low expectations 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.

As the company has a very heavy, and perhaps unsustainable, capital investment program, dominated by wind energy, it is cash flow negative, and is projected to remain so for at least one more year. Thus, the range of estimates is negative \$1.89B to negative \$269M, with a tighter range of a median (midpoint of the array of values) of negative \$471M to a mean (simple average) of negative \$607M.

Table 1: Method 1								
Scenario 1: Intrinsic Value, Using Present Value of Discounted Future Cash Flows								
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 FY2018 (\$M): -\$ 18.85								
Matrix Values (\$M) g=v; r=>	4.00%	5.00%	6.00%	7.00%	8.00%	9.00%	10.00%	
0.00%	-\$ 471	-\$ 377	-\$ 314	-\$ 269	-\$ 236	-\$ 210	-\$ 189	
1.00%	-\$ 629	-\$ 471	-\$ 377	-\$ 314	-\$ 269	-\$ 236	-\$ 210	
2.00%	-\$ 943	-\$ 629	-\$ 471	-\$ 377	-\$ 314	-\$ 269	-\$ 236	
3.00%	-\$ 1,886	-\$ 943	-\$ 629	-\$ 471	-\$ 377	-\$ 314	-\$ 269	
4.00%	--	-\$ 1,886	-\$ 943	-\$ 629	-\$ 471	-\$ 377	-\$ 314	
5.00%	\$ 1,886	--	-\$ 1,886	-\$ 943	-\$ 629	-\$ 471	-\$ 377	
6.00%	\$ 943	\$ 1,886	\$ --	-\$ 1,886	-\$ 943	-\$ 629	-\$ 471	
7.00%	\$ 629	\$ 943	\$ 1,886	\$ --	-\$ 1,886	-\$ 943	-\$ 629	
		Minimum	Maximum	Median	Mean (Average)			
Total Market Value (\$M)		-\$ 1,885.69	-\$ 269.38	-\$ 471.42	-\$ 606.71			

Source: Author's calculations based on valuation model formulae using summary versions in annual reports from the company.

Using fully taxed net income as a proxy for free cash flow, which, roughly speaking, is usually the case for a mature company where capital expenditures are about equal to depreciation and

amortization expense, gives a more favourable valuation to the company, shown in the second table.

Table 2: Method 1							
Scenario 2: Intrinsic Value, Using Present Value of Discounted Future Cash Flows, With Net Income as Proxy for FCF							
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 FY2018 (\$M): \$ 6.41							
Matrix Values (\$M) $g=v; r=>$	4.00%	5.00%	6.00%	7.00%	8.00%	9.00%	10.00%
0.00%	\$ 160	\$ 128	\$ 107	\$ 92	\$ 80	\$ 71	\$ 64
1.00%	\$ 214	\$ 160	\$ 128	\$ 107	\$ 92	\$ 80	\$ 71
2.00%	\$ 321	\$ 214	\$ 160	\$ 128	\$ 107	\$ 92	\$ 80
3.00%	\$ 641	\$ 321	\$ 214	\$ 160	\$ 128	\$ 107	\$ 92
4.00%	--	\$ 641	\$ 321	\$ 214	\$ 160	\$ 128	\$ 107
5.00%	-\$ 641	--	\$ 641	\$ 321	\$ 214	\$ 160	\$ 128
6.00%	-\$ 321	-\$ 641	\$ --	\$ 641	\$ 321	\$ 214	\$ 160
7.00%	-\$ 214	-\$ 76.51	-\$ 641	\$ --	\$ 641	\$ 321	\$ 214
		Minimum	Maximum	Median	Mean (Average)		
Total Market Value (\$M)		\$ 91.58	\$ 641.03	\$ 160.26	\$ 206.25		

Source: Author's calculations based on valuation model formulae using summary versions in annual reports from the company.

The range of estimates is \$92M to \$641M, with a tighter range of a median (midpoint of the array

of values) of \$160M to a mean (simple average) of \$206M.

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

As noted in the Executive Summary, the 'as is' current value of the company, but rendered fully taxable, which it, as a Crown-owned entity, is not currently, but as it would be, should it be sold off, ranges from \$50M to \$152M, with a median (midpoint of the array of values) of \$95M and a mean (simple average) of \$106M. That the median and mean are close does not mean that there is any great precision or authoritativeness of the determination of these estimates.

Five of eight possible valuation metrics (Forward Price to Earnings, 'P/E'; Price to Sales, 'P/S'; Price to Book Value, 'P/BV'; Enterprise Value to Revenue, 'EV/Rev'; and Price to Operating Cash Flow, 'P/CF') were usable.

Please see the details of the models' results in Table 3.

Table 3: Method 2					
Market Value, Using Financial Metrics from Comparable Companies					
Valuation Metrics Applied to PEI Energy; i.e., Market Value of Common Equity (Figures \$M)	Price to Sales	Forward P/E (Market Value to Est. Net Income)	Enterprise Value/Revenue (subtracting net debt)	Price to Cash Flow	Price to Operating Cash Flow
Average Six Canadian Renewable-Dominated Utility Cos.	\$ 264.19	\$ 206.62	\$ 81.62	\$ 122.96	\$ 88.67
Average Six Canadian Non-Renewable-Dominated Utility Cos.	\$ 141.14	\$ 134.82	\$ 33.60	\$ 63.92	\$ 69.03
Average Seven US-Listed Renewable-Dominated Utility Cos.	\$ 72.85	\$ 62.55	\$ 72.85	\$ 62.55	\$ 128.50
Average of All the Above	\$ 151.91	\$ 149.09	\$ 50.22	\$ 81.83	\$ 95.40
Market Value Using Comparable Companies, and Four Viable Valuation Ratios					
	Minimum	Maximum	Median	Mean (Average)	
Total Market Value (\$M)	\$ 50.22	\$ 151.91	\$ 95.40	\$ 105.69	

Source: Capital IQ via Yahoo!Finance; company annual reports; calculations from consultant.

CONCLUSION

This study used detailed historical financial statements, but the trends in net income, costs and capital expenditures may not be fully and reliably extrapolated. A more thorough appraisal prior to a proposed floating of PEI Energy shares on a stock market or before the company would be sold to private investors could and should determine a very different value for the company.

As far as is known, the proceeds of such a sale would go to the provincial government of Prince Edward Island. As PEI Energy is on a cash-burning capital expansion path, it likely is not an immediate candidate for such a sale, but could be once it settles into a more steady, mature state.

APPENDIX I:

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 case.

1. The government has no mandate to own or run a commercial enterprise. Libertarians, 'Classical Liberals' and free-market conservatives believe that 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. In some cases, government-owned entities are monopolies or effective monopolies, and use their market-dominating power to charge higher prices than would be the case in a fully competitive sector with several viable companies in intense rivalry to offer customers the best product or service at the best price.
 12. 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.
 13. 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.
 14. 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.
15. 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 ways.
 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 proportion of the economy the government occupies increases.

