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FINANCIAL REORGANIZATION OF MANITOBA HYDRO

BY GRAHAM LANE



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GRAHAM LANE

Graham Lane is a retired CA and has had a multifaceted career spanning almost 50 years in the public and private sectors of seven provinces as a Senior Executive and Consultant.

In the public sector, before concluding his career as the Chairman of the PUB, he consulted for three provincial governments and was employed by four provinces. In Manitoba, he was the CEO of Credit Union Central, bringing in online banking, a Vice-President of Public Investments of Manitoba, the interim President of MPI, reorganizing the corporation after its massive losses of 1986, a Vice-President of the University of Winnipeg, and the CEO of the WCB, restructuring the insurer and returning it to solvency. His experience with Crown Corporations go well beyond Manitoba, he was the Comptroller of Saskatchewan's Crown Investments Corporation, and a consultant reviewing government auto insurance in BC and workers compensation in Nova Scotia. He received the gold medal in Philosophy as an undergraduate, and a Paul Harris Fellowship from Rotary International for excellence in vocational service. Throughout his career, and wherever he worked, consulted or volunteered, he maintained an external objectivity.



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TABLE OF CONTENTS

Background	4
Executive Summary	5
Action	7
Objectives	7
Implications	8
Ratepayer Profile	9
Comments	10
Other Remarks	11
Opportunities	12
Appendix	13

BACKGROUND

This paper-proposal has been prepared by Graham Lane, retired Chair of the Manitoba Public Utilities Board (PUB).

This is a 'concept' paper, seeking better outcomes in the public interest. The valuation review was assisted by Ian Madsen, a practicing CFA who has been involved in energy industry activities and Senior Policy Analyst at the Frontier Centre for Public Policy.

The author suggests that proceeding to seek and have ratepayers 'pay' for, through excessive future rate hikes, missteps taken by prior governments would result in damage to the economy and the risk of a drop in demand – requiring even higher rates than now proposed into the future, and bringing increased energy poverty.

The author also suggests that proceeding with the current plan to boost rates significantly would end up with the new government 'wearing' the baggage of the prior government.

This paper has been prepared without 'insider' knowledge of Hydro's construction and export sales contracts and internal forecasts and plans. Matters that would require investigation would also include the FN partnerships and MH's collective agreements and pension plans.

The author headed up two Crown corporations – MPI and WCB. During his career he led the re-engineering of three large Manitoba enterprises (Credit Union Central, MPI, WCB) as well, and as a consultant, major changes to Saskatchewan Forest Products, Norfolk Trust, Nova Scotia's WCB, and BC's ICBC.

Graham Lane completed his career as Chairman of PUB, for 2004-2013, during which he presided over a succession of Hydro and Centra Gas rate applications. Much earlier in his career, he was Comptroller of Crown Investments of Saskatchewan, where, among other duties, he oversaw financial reporting for Crown corporations, including SaskEnergy and SaskPower. He is a retired chartered accountant.

EXECUTIVE SUMMARY

This paper assumes that BiPole III, Keeyask and the Manitoba-Minnesota transmission line is completed and that current and foreseeable future export sales of surplus electricity will not realize high enough prices to hold future domestic rates to 'reasonable' annual increases.

It also assumes that partnerships entered into with First Nations with respect to Wuskwatim and Keeyask dams will continue, and that the Conawapa dam project will not proceed but remain mothballed with no intention to proceed for decades, if ever.

In the absence of a 'bail-out' by the provincial government, domestic ratepayers will likely be called upon to shoulder 'massive' annual rate increases well beyond the anticipated inflation rate.

Annual domestic rate increases well beyond the anticipated rate of inflation will put significant economic and or social pressure on all ratepayers. Such increases would negatively impact, in particular, lower income households (30%), households heating electrically (35%), rural and northern ratepayers, and large industrial power users (the latter representing approximately 25% of Hydro's average annual generation).

Such large annual rate hikes will not be welcome for domestic ratepayers, and ratepayers will, appropriately, attribute the increases to Hydro's in-process ill-fated and poorly managed expansion.

Despite the fact that the blame for Hydro's faulty expansion (and specific actions with respect to the expansion) lies largely with the former Doer-Selinger NDP governments, most ratepayers will still fault the present Pallister PC government for the size of future rate increases.

Furthermore, large rate hikes will further negatively affect future domestic demand growth, and, in particular, there is a significant risk that some large industrial customers will choose not to expand if not leave the Province. Demand growth has been lessening both in Manitoba and its MISO (Mid-Continent Independent System Operator) American utility customers' areas.

Renewables – solar and wind and distributable transmission – are falling in price with further reductions happening due to technological changes and renewable energy tax breaks and other incentives particularly in the US. As well, natural gas (with abundant shale-produced supplies), co-generation, and increased energy efficiency measures are reducing the prospects for future demand growth.

In the 'face' of the situation and other future risks including drought which is overdue (the last drought was 15 years ago) and interest rate increases, this paper proposes two possible remedies to a situation that, left alone, could well damage Manitoba's future economy and the current government's political future.

The remedies proposed, herein, are:

- a) financially reorganize Manitoba Hydro, employing the Consolidated Fund (CF), to mitigate (lessen) otherwise 'massive' rate hikes; or
- b) financially reorganize Manitoba Hydro, employing the CF, and a sale of the utility – Hydro and its subsidiary Centra Gas - to mitigate the otherwise 'massive' rate hikes while reducing the impact of Hydro's financial reorganization on the CF.

Under the 'sale' proposal, the provincial government would retain overall 'control' of the utility through legislation and regulation. The Public Utilities Board (with an expanded mandate - to include approval of future major capital expenditures) and its energy conservation crown corporation – Efficiency Manitoba (proclaimed but yet to be organized and operative) would protect the public interest.

While both options 'rescue' ratepayers – from households to large industry – and the economy, only the 'sale' option best protects the government's fiscal future.

To pursue the current 'plan', having domestic ratepayers carry the 'whole load' of what has become the boondoggle of boondoggles of Manitoba's history, would be unfair and lead to ongoing disquiet and political risk.

The Doer-Selinger NDP regime, actively assisted by then-Hydro's board and senior executive, pursued expansion for non-business objectives while accepting excessive costs and ignoring major structural changes in the electricity industry. Ratepayers and the economy would have been better served if, instead of new dams (Wuskwatim, Keeyask, Conawapa), so-called partnerships with northern First Nations (brought about by inappropriate incentives and Hydro loans), and new transmission lines (BiPole III, MB-Minnesota), a combined cycle natural gas plant had been built in Brandon - at 5% of the cost of the in-progress expansion – to provide a protection from drought not relying on American imports.

Given the damage done, PUB rate orders included comments such as "once built, Manitoba has to live with it (the expansion)", likely the best strategy the new government and board could take would be to sell Hydro and its subsidiary Centra Gas. That action would result in a short-term media and political controversy, while relieving long-term rate pressures on ratepayers and the economy.

The sale of MTS brought out opposition from a few special interest groups but only for a short 'livable' period of time. Criticism of a Hydro-Centra Gas sale would be counter-balanced effectively by the 'relief' of ratepayers, whose disposable incomes and business prospects would be best protected.

ACTION

1. Manitoba Hydro to undertake a financial reorganization for the purposes of reducing assets and liabilities to realizable values based on rate of inflation rate hikes and ensuring adequate future financial indicators.
2. Write-down Manitoba Hydro's non-earning and money-losing assets – deferred expenses, Wuskwatim, construction-in-progress re Bipole III and Keeyask, goodwill, deferred/capitalized expenses re Conawapa.
3. Change MH's accounting policies to reduce constant and major (up to 40%) annual deferrals of operating, maintenance and administrative – OM&A – expenditures.
4. Create a negative fund within the Province's Consolidated Fund as of March 31, 2018 reflective of the above actions 1, 2 and 3 – to be amortized with interest over 35 years through the Consolidated Fund.
5. Hydro to accept as final the 3.36% interim rate hike for 2017 and withdraw its application to PUB for higher rate hikes. Instead, indicate to PUB an intent to hold future annual rate hikes to inflation.
6. Review the partnerships with FNs – Wuskwatim and Keeyask, amendments required to reflect the write-down of Wuskwatim and Keeyask. Explore terms for a withdrawal of FNs from the so-called partnerships.
7. Discuss the pros and cons of selling MH and its subsidiaries (see below).
8. If sales proceed, expand PUB mandate to approval of major capital expenditures as well as rate applications.
9. Proceed with an independent inquiry into the major expansion actions of MH since 2004. The general public deserves to learn as to how the boondoggle came about, and as to the cost to taxpayers, ratepayers and the economy generated by the expansion.

OBJECTIVES

1. Restructure Hydro such as to meet reasonable financial indicators without beggaring ratepayers.
2. Reduce the risk that major power users will either leave or reduce their Manitoba operations due to electricity rate hikes.
3. Reduce the risk that lower income households will require direct subsidies from the Province to meet increased electricity rates.
4. Position Hydro to be sold. If sold, selling price to generate material funds for Consolidated Fund.
5. Ensure reasonable flow of levies to Consolidated Fund – by current mechanism if retained as a Crown corporation or through direct taxation if sold.
6. Best ensure that Manitobans will understand and be regularly reminded – through the negative CF fund and its amortization against future government budgets – that the NDP government of 1999-2016 was responsible for the Hydro debacle and its effects through steps now taken to protect both ratepayers and the economy.

IMPLICATIONS

Manitoba Hydro's assets would be re-established at realizable values. MH's ratepayers – residential, institutional and business – would not face large inflation plus rate increases going forward.

Cost over-runs, current status of excessive costs over initial budgets for ongoing projects, are Wuskwatim dam (\$1.4 billion), Bipole III (\$1.7 billion), Keeyask dam (\$3.9 billion), totalling \$7 billion. Adding in the intangible asset, goodwill, still on Hydro's balance sheet, plus deferred income taxes (Centra) and deferred costs of the Conawapa dam (money continues to spent on it, though mothballed two years ago), represent at least \$7 billion of 'assets' to be written down or off, offset by Consolidated Fund taking responsibility for an equivalent amount of now Hydro long-term debt, relieving major Hydro cash drain by the loans removed from Hydro.

Inflation level annual increases would preserve the Manitoba Advantage, preserving a positive environment for major power users while assisting lower income households and households heated by electricity.

The immediate impact on the Consolidated Fund would be a decrease of revenue from capital tax

and loan guarantee fees related to the loans transferred to the CF from Hydro. If Hydro was sold, the revenue decrease would be mitigated by provincial income taxes on the newly-private utility.

From 2018-19 and subsequent years, the negative CF fund (say, \$7 billion) with interest would be amortized over 35 years 'against' the provincial budget. The annual charge against the budget would remind taxpayers of the inept management of Hydro during the NDP governments of Doer-Selinger.

Assuming no privatization, annual levies by government on Hydro – capital tax, water rentals and debt guarantee fee – would continue – with capital tax and debt guarantee fees reduced with respect to the CF assuming responsibility for \$7 billion of Hydro debt. However, the negative fund in the Consolidated Fund would lack the, one estimate, \$6 billion of sales prices if Hydro and Centra were to be sold – see below and the appendix.

Assuming a sale, anticipate further significant reductions in Hydro's (Hydro and Centra) personnel complement and a trimming of administrative and operating units.

RATEPAYER PROFILE

While the ratepayer base is dominated by homes (single family, duplex, condo, apartments), it also includes commercial and institutional accounts and large power users. Large power users represent about 26% of Hydro's generation.

About 30% of Manitoba household are lower incomes (Stat Canada LICO) and about 35% of all households – primarily rural and northern – heat electrically. The major large power users, that include Vale, HudBay, Gerdau Steel, fertilizer plants, and pipelines (pipelines originally used natural gas to move oil and gas through Manitoba) have long indicated that their presence in Manitoba has continued and, in some cases, expanded, due to low electricity rates.

While Hydro's rates are, now, lower than other Provinces except Quebec and BC (also dominated by hydroelectric plants), hydro bills have two major elements – rates and duration and extent of cold weather days. Large rate hikes will result in increased delinquency within the household category and the risk of large power users reducing operations and ending expansions in Manitoba.

A vicious cycle of reduced demand driven by higher rate hikes would commence with the current approach – driving up rates to improve Hydro's financial stability and financial indicators.

COMMENTS

The Hydro debacle – an unnecessary and overly expensive expansion – was driven by the Doer-Selinger NDP governments, assisted by a compliant and uninformed Hydro board and management.

In an ill-fated effort to generate ‘clean’ power and assist east-side First Nations communities with a UNESCO World Heritage site, employment, training, contracts, community developments and ‘partnerships’ (required investments funded by Hydro loans), the NDP-Hydro leadership ignored major energy market changes (shale gas disruption, other renewables – wind, solar, tax assists in the U.S.), rational analyses and business plan approaches and even the PUB predicting risk of massive rate hikes, as plans for an expansion continued despite a souring economic environment for large hydro plants.

Despite Hydro’s insistence that Bipole III is needed for reliability reasons, there remains significant doubt that the new line is required for reliability. And, if judged necessary, it could have been deferred for years before moving to utilize a much cheaper eastern route – which would also have avoided the geographical area known as ‘tornado alley’.

Keeyask’s production is not needed for domestic supply at least till the 2040s – if ever. Its projected generation and transmission costs per kWh would exceed export revenue prices by three to four times. Conawapa is not needed, yet apparently \$400 plus millions of costs related to Conawapa planning and First Nation negotiations remains on MH’s books.

Wuskwatim was built as a merchant plant, with its generation to be sold to American utilities, but revenue per kWh is at best one-fourth of costs per kWh. Presently, Hydro treats the plant as having a domestic objective, thus allowing for allocating higher revenues to the ‘partnership’ rather than non-firm export revenue. The initial capital cost forecast – for the plant and required transmission – was exceeded by over two times – \$900 million to \$2.2 billion.

The Minnesota-Manitoba line was (initially expected) to be paid for by US utilities, but Hydro has ended up funding 60% or more of the line. The new line would provide drought protection, necessary

because Hydro did not built a natural gas plant to serve as drought protection at 5% of the cost of the expansion fueled by natural gas fields in Manitoba.

Firm power contracts with the US conclude in 2035 although dams are amortized over 100 years and loans funding the developments have terms requiring several rounds of renewal – with higher interest rates expected.

Contracts for equity partnerships for northern First Nations were largely funded by loans from MH, negotiation and other pre-contract costs likely now exceed \$700 million. Untendered contracts, particularly up north, need review and evaluation – alleged practices include single source contracts at prices several times higher than should have been required.

MH has not been following conservative accounting policies, massive expenditures incurred in past fiscal periods have been deferred and capitalized, to be reported as ‘costs’ far out in time, despite the fact that the costs deferred and capitalized were for projects that are most likely to develop net negative value (ahead of planned future rate increases which were expected to equal and exceed the net negative value of the projects). The accounting for the limited partnerships with northern FNs was manufactured to allow the partnerships to show results that would be very poor if straight forward allocations were in place.

By adopting conservatism with respect to period costs and reducing the book value of certain major new assets, households and industry would not be obliged to cover costs on projects with negative present values.

With a transfer of excess cost responsibility to the Consolidated Fund from Hydro, through a negative fund the sum of that fund could be amortized with interest over a selected period – say 30 years. This could/would remind taxpayers of the costly hydro misadventure carried out during the NDP’s recently concluded 17-year reign.

If this proposal is not adopted, the new government could be left with the necessity of allowing Hydro seeking double or triple electricity rates from now over the next decades or two, severely burdening industry and householders.

OTHER REMARKS

MH should proceed into a financial reorganization, involving:

- a) writing-off non-earning assets such as goodwill, income tax deferrals, Conawapa expenses, etc.
- b) adjusting values to represent FN positions as cost-liability rather than equity partnership.
- c) writing-down 'assets' as per above (Wuskwatim, Bipole III, Keeyask) to 'market value'.
- d) reducing debt, representing debt to be transferred to Consolidated Fund.

Reorganization accounting allows for resetting of balance sheet items – capital assets values, providing a 'second life' for the now-monopoly utility.

Communications would have to be 'excellent' to educate and inform the general public to accept the reorganization. If the result included inflation-level annual rate hikes, most households, commercial and institutional customers and large power users, would likely be very pleased. As for taxpayers, the accounting and legal measures through the reorganization would have to be explained thoroughly. (Hydro's assets would be established at current present value levels, with all intangible 'assets' written off.)

PUB could/should restrict future rate hikes to a maximum of the rate of inflation, resulting in losses in Hydro's books unless assets are written down to allow rate hikes at rate of inflation to produce a proper debt/equity ratio going forward.

OPPORTUNITIES

A reorganized Hydro would have a solid base to continue. Hydro's balance sheet would reignite a financial reorganization, with a 'clean' restated balance sheet.

The government could then explore selling Hydro – perhaps in two bundles. One bundle could be Hydro and its subsidiaries involved in the electricity market, the other bundle could be Centra Gas, creating competition between gas and electricity, again.

While some will disagree, Hydro would (likely) best be sold as a unit, rather than breaking it up (into generation, transmission and distribution); doing so in Ontario led to excessive costs and major mistakes. That said, the prospect of breaking up Hydro should be considered and there should be opportunities for co-generation.

The proceeds of the sales could/would assist the government in dealing with its overall debt problem and addressing the impact on the CF.

A preliminary 'guess' is that a reorganized Hydro would bring sale prices of say, \$5 to 6 billion for Hydro and electricity subsidiaries and \$0.8 to 1.5 billion for Centra Gas. The receipt of, say, \$6.5 billion in sales' proceeds would mitigate the immediate and annual 'costs' of the CF relieving Hydro of \$7 billion of its debt. The analysis appended to this paper explores valuations under various approaches.

After the sale, both utilities would continue to have PUB as its rate setter; public hearings for rate

applications would continue. PUB would provide the new owners an allowable rate of return on its capital and debt. PUB would best be provided a mandate over major capital expenditures.

The new entities would be subject to income tax, federal and provincial. Current levies on Hydro and its subsidiaries would be reduced to recognize CF's assumption of 'written down' Hydro debt. Private utilities would be subject to income taxes. A private utility would be best to pursue investments related to co-generation, charging stations for electric vehicles, etc. Government owned utilities move too slowly, have political objectives and have a history of missing market changes and opportunities.

MH's legislation would be amended, allowing government to ensure the utilities operated in the public interest. A private Hydro and Centra would fit with an Efficiency Manitoba Crown entity.

Once sold, Hydro and Centra would, pursuant to NAFTA, not be able to return to Crown ownership.

If Hydro and Centra are not sold, after the reorganization levies (capital tax, debt guarantee fees, water rentals) would continue, with capital tax and debt guarantee fees reduced to reflect the transfer of debt to CF, and PUB would remain the rate setter.

A review and amendment of the Hydro Act should be done, to ensure the Act represents the changed circumstances of Hydro, Centra and the market.

APPENDIX

Valuation Estimates for Manitoba Hydro

Introduction

The existing debt levels of Manitoba Hydro greatly reduce its potential value. Hence, several different scenarios were used in a preliminary valuation of the Crown company:

Scenarios modelled:

As is, untaxed; as is, fully taxed; no debt or interest expense, untaxed; no debt or interest expense, fully taxed.

Intrinsic Value

As Hydro has projected negative free cash flow for 2018, the discounted future free cash flow or 'intrinsic' value of the company is negative, either untaxed or fully taxed, even if only sustaining (i.e., not including expansion spending on Keeyask or Bipole) capital expenditure is subtracted from operating cash flow.

However, if the company is rendered debt and, thus, interest expense free, the valuation estimates become quite attractive, from a potential sales proceeds or corporate refinancing point of view.

For no debt, and still untaxed (remaining a Crown corporation), the median value was determined to be \$8.99 billion; the mean of the range is \$11.09 billion. The possible range is \$5.14 billion to \$30.83 billion. The numbers are highly sensitive to the required rate of return and projected growth rates used.

If it were to become a taxable firm, i.e., sold into the public markets, or sold to one or more strategic investors, the median value is estimated at \$6.26 billion; with the mean price being at \$7.72 billion.

Market Value

As noted in the section above, the negative projected free cash flow and next year net income numbers complicated the valuation.

Several comparison companies were used: a set of renewable energy-based publicly traded Canadian companies, other Canadian utilities, and Brazilian hydropower utilities traded on US stock market exchanges.

As is, i.e., with current debt and interest expense levels, and still untaxed (remaining a Crown corporation), the median value was determined to be \$4.82 billion; with the mean of the range is \$6.44 billion. The possible range is \$2.73 billion to \$30.83 billion. The numbers are highly sensitive to the wide variations in the valuations and financial results of the comparison companies.

If it were to become a taxable firm, i.e., sold into the public markets, or sold to one or more strategic investors, the mean value was estimated at \$4.27 billion; with the median at \$4.82 billion.

Were the company to be debt free, and still untaxed (remaining a Crown corporation), the median value was determined to be \$14.1 billion; the mean of the range is \$16.2 billion. The possible range is wide: \$1.99 billion to \$6.09 billion.

Were the company to be debt free, and full taxable (i.e., no longer remaining a Crown corporation), the median value was determined to be \$11.76 billion; the mean of the range is \$12.76 billion. The possible range is \$4.82 billion to \$21.69 billion.

Conclusion

While estimated sale proceeds (using either method, above), would still be exceeded by current long term debt of \$16.1 billion, such a sale would obviously greatly reduce the damage to provincial debt levels were it to take on the whole load in such a restructuring and divestiture.

Table 1

Market Value Comparison Model

Each successive "Track" removes ratios with little usefulness.

Four scenarios are used for each track: As is, the firm is untaxed; As is, the firm is now fully taxed; No debt untaxed; No debt fully taxed.

Track 1. Market Comparison Valuation: Average of All Companies: Cdn, Brzl	Trailing P/E (Market Value to Net Income)	Forward P/E (Market Value to Est. Net Income)	Price to Sales	Price to Book	Enterprise Value/ Revenue (subtracting debt)	Enterprise Value/ EBITDA (subtracting debt)	Price to Operating Cash Flow	Price to Free Cash Flow	(Mean) [Removes Price to Free Cash Flow because of negative values]
1. As is, untaxed	\$2,133	-\$1,484	\$8,142	\$4,297	-\$2,319	-\$2,315	\$8,356	-\$31,302	\$2,401
2. As is, fully taxed	\$1,557	-\$1,384	\$8,142	\$4,297	-\$2,319	-\$2,315	\$4,265	\$4,146	\$1,749
3. No debt, untaxed	\$23,251	\$10,124	\$8,142	\$4,297	-\$2,319	-\$2,315	\$10,813	-\$45,667	\$7,313
4. No debt, fully taxed	\$16,973	\$7,478	\$8,142	\$4,297	-\$2,319	-\$2,315	\$8,350	-\$31,252	\$5,801
Track 2. Market Value for All Four Scenarios, Using All Comparable Cos [removing Price to Free Cash Flow, Price to Forward Earnings columns due to negative values]:									
	Mean		Median		Minimum		Maximum		
1. As is, untaxed	\$3,049		\$3,215		\$2,319		\$8,356		
2. As is, fully taxed	\$2,953		\$2,927		\$2,319		\$8,356		
3. No debt, untaxed	\$6,569		\$6,219		\$2,319		\$23,251		
4. No debt, fully taxed	\$5,522		\$6,219		\$2,319		\$16,973		
Note: The small sample size for Canadian companies makes the average of all companies more reasonable.									
Track 3. Market Value for All Four Scenarios, Using All Comparable Cos [removing Price to Free Cash Flow, Price to Earnings and Enterprise Value columns due to negative values]:									
	Mean		Median		Minimum		Maximum		
1. As is, untaxed	\$4,929		\$4,297		\$2,133		\$8,356		
2. As is, fully taxed	\$3,373		\$4,265		\$1,557		\$4,297		
3. No debt, untaxed	\$12,521		\$18,013		\$4,297		\$23,251		
4. No debt, fully taxed	\$9,873		\$8,350		\$4,297		\$16,973		
Note: The small sample size for Canadian companies makes the average of all companies more reasonable.									
Track 4. Market Value for All Four Scenarios, Using Only Cdn. Renewable Cos [removing Price to Free Cash Flow, Price to Earnings and Enterprise Value columns due to negative values]:									
	Mean		Median		Minimum		Maximum		
1. As is, untaxed	\$3,929		\$3,455		\$1,049		\$7,285		
2. As is, fully taxed	\$2,646		\$3,455		\$766		\$3,718		
3. No debt, untaxed	\$7,872		\$8,730		\$3,455		\$11,433		
4. No debt, fully taxed	\$6,360		\$7,280		\$3,455		\$8,346		
Note: The small sample size for Canadian companies makes the average of all companies more reasonable.									
Track 5. Market Value for All Four Scenarios, Using All Cdn. Comparable Cos [removing Price to Price to Free Cash Flow, Price to Earnings and Enterprise Value columns due to negative values]:									
	Mean		Median		Minimum		Maximum		
1. As is, untaxed	\$6,439		\$4,821		\$2,727		\$11,769		
2. As is, fully taxed	\$4,273		\$4,821		\$1,990		\$6,807		
3. No debt, untaxed	\$16,213		\$14,104		\$4,821		\$29,714		
4. No debt, fully taxed	\$12,758		\$11,761		\$4,821		\$21,691		
Note: The small sample size for Canadian companies makes the average of all companies more reasonable.									

Table 2

Intrinsic Value (Discounted Free Cash Flow) Calculations, Four Scenarios

Four Scenarios are used for each track: As the firm is now; Fully taxed; No debt and untaxed; No debt and fully taxed.

1. Intrinsic Value, As Is; Existing debt and Interest expense, Untaxed Free Cash Flow, Next year, Estimated	(\$M) -\$178		
	Mean	Median	
Intrinsic Value, As Is; Existing debt and Interest expense, Untaxed (Averages: Mean, Median)	-\$2,818	-\$2,749	Values determined using rate of return range of 5 - 8%, Growth rate range of 2 - 4%
Range	-\$3,552	-\$2,220	
2. Intrinsic Value, As Is; Existing debt and Interest expense, Fully taxed Free Cash Flow, Next year, Estimated	-\$171		
	Mean	Median	
Intrinsic Value, As Is; Existing debt and Interest expense, Fully taxed (Averages: Mean, Median)	-\$2,718	-\$2,651	Values determined using rate of return range of 5 - 8%, Growth rate range of 2 - 4%
Range	-\$3,426	-\$2,141	
3. Intrinsic Value, As Is; NO existing debt or Interest expense, Untaxed Free Cash Flow, Next year, Estimated	\$308		
	Mean	Median	
Intrinsic Value, As Is; NO existing debt or Interest expense, Untaxed (Averages: Mean, Median)	\$11,090	\$8,992	Values determined using rate of return range of 5 - 8%, Growth rate range of 2 - 4%
Range	\$5,138	\$30,829	
4. Intrinsic Value, As Is; NO existing debt or Interest expense, Fully taxed Free Cash Flow, Next year, Estimated	-\$214		
	Mean	Median	
Intrinsic Value, As Is; NO existing debt or Interest expense, Fully taxed (Averages: Mean, Median)	\$7,715	\$6,256	Values determined using rate of return range of 5 - 8%, Growth rate range of 2 - 4%
Range	\$3,575	\$21,448	

