

PREPARED DIRECT TESTIMONY:  
**JAMES M. COYNE**

PREPARED FOR:  
**LIBERTY UTILITIES (GAS NEW BRUNSWICK) LP**  
BEFORE THE:  
**NEW BRUNSWICK ENERGY AND UTILITIES BOARD**

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1       **I. INTRODUCTION**

2       **A. Qualifications**

3       My name is James M. Coyne, and I am employed by Concentric Energy Advisors, Inc.  
4       ("Concentric") as a Senior Vice President. My business address is 293 Boston Post Road West,  
5       Suite 500, Marlborough, MA 01752. I am testifying on behalf of Liberty Utilities (Gas New  
6       Brunswick) LP ("Liberty"), which provides natural gas distribution service in New  
7       Brunswick. Liberty is a wholly-owned subsidiary of Liberty Utilities (Canada) LP, which in  
8       turn is indirectly owned by Algonquin Power & Utilities Corp ("APUC").

9       I am one of Concentric's professionals who provide expert testimony before U.S. and  
10      Canadian federal, state and provincial agencies on matters pertaining to economics, finance,  
11      and public policy in the energy industry. Concentric provides financial, economic and  
12      regulatory advisory services to clients across North America, including utility companies,  
13      regulatory and public agencies, and utility sector investors. I regularly advise utility  
14      companies, generating companies, public agencies and private equity investors on business  
15      issues pertaining to the utilities industry. This work includes estimating the cost of capital  
16      for the purpose of ratemaking and providing expert testimony and studies on matters  
17      pertaining to incentive regulation, rate policy, valuation, capital costs, fuels and power  
18      markets. I have testified or provided expert evidence in over 50 proceedings in Canada and  
19      the U.S., including 16 cost of capital proceedings in Canada.

20     I am also a frequent speaker and author of articles and white papers on the energy industry.  
21     Recently, on behalf of the Canadian Gas Association and the Canadian Electric Association, I  
22     prepared a discussion paper for utility executives and provincial regulators that examined  
23     the roles that Canada's utilities and regulators can play to promote innovation. In addition, I  
24     facilitated workshops between Canadian regulators and utility executives on regulatory and  
25     utility responses to a low carbon world, and drafted follow-up white papers to facilitate  
26     further discussion on emerging industry issues. I have been an invited speaker for several  
27     CAMPUT events including the Energy Regulation Course at Queen's University where I spoke  
28     on "Innovations in Utility Business Models and Regulation."



Prior to joining Concentric, I was Senior Managing Director in the Corporate Economics Practice for FTI/Lexecon and Managing Director for Arthur Andersen's Energy & Utilities Corporate Finance Practice. In those positions, I provided expert testimony and advisory services on mergers, acquisitions, divestitures and capital markets for clients in the energy industry. In addition to the foregoing positions, I was also Managing Director for Navigant Consulting, with responsibility for the firm's Financial Services practice, a Director for Standard & Poors' DRI-McGraw-Hill Electric and Natural Gas practices, and Senior Economist for the Massachusetts Energy Facilities Siting Council, where I analyzed the supply plans and facilities proposals from the state's electric and gas utilities. I also served as State Energy Economist for the Maine Office of Energy Resources. I hold a B.S. in Business Administration from Georgetown University and a M.S. in Resource Economics from the University of New Hampshire. My qualifications are detailed more fully in Appendix B.

## **B. Scope of Report**

I have been asked to provide an estimate of the cost of capital and a recommended equity ratio for Liberty, as well as to assess the reasonableness of Liberty's debt cost. In order to estimate the cost of capital, I have relied on analytical tools and data sources commonly used for such purposes by regulators in Canada and the U.S. I have also reviewed past decisions of the New Brunswick Energy and Utilities Board (the "Board"), including the 2010 decision that established Liberty's current authorized ROE of 10.9 percent and deemed equity ratio of 45.0 percent and the 2016 decision that determined that Liberty was no longer in the development period once the general franchise agreement expired in 2019. The analysis provided in this report supports my overall recommendation on the cost of equity and capital structure.

## **C. Report Organization**

The remainder of this report is organized as follows: Section II summarizes my ROE and equity ratio recommendations; Section III summarizes the legal requirements and key regulatory precedents for setting a fair return; Section IV reviews the business and economic conditions in Canada and the U.S. and how they have changed since the 2010 decision was issued by the Board; Section V describes my proxy groups and my proxy group screening criteria; Section VI discusses the methods used to estimate the cost of equity and summarizes the results of the DCF, CAPM and Risk Premium analyses; Section VII discusses the business



and financial risks of Liberty, both in terms of how those risks have changed since 2010 and how those risks compare to the proxy group companies, and my recommended equity ratio for Liberty; and in Section VIII, I summarize my conclusions and recommendations.

## **II. ROE AND EQUITY RATIO RECOMMENDATION**

### **A. Approach**

An assessment of the appropriate return for Liberty relies on the fundamental legal and regulatory principle that a utility must be given a reasonable opportunity to earn a fair return on its invested capital. In order for the rate of return to be judged fair, Liberty must be provided with a reasonable opportunity to earn a return that meets three standards:

- the comparable investment standard;
- the financial integrity standard; and
- the capital attraction standard.

These standards must be met individually and in total to satisfy the fair return standard.

My analysis includes the selection of three proxy groups, a Canadian group, a U.S. gas group, and a North American group, with companies reasonably comparable to Liberty with respect to business and financial risks. I have estimated the cost of equity for Liberty using the discounted cash flow ("DCF"), capital asset pricing ("CAPM"), and bond yield plus risk premium ("risk premium" or "equity risk premium") models, with alternative inputs and model specifications designed to test the reasonable range of results. In doing so, I look for evidence of consistency between models and results. The results of methods I have relied upon are summarized in Figure 1. Based on these analyses, I developed a range of results for each of the proxy groups.

In addition, I performed a risk assessment of Liberty currently in relation to Liberty's risks at the time of the Board's 2010 decision, the last time the Board established these parameters for Liberty, and I also assessed Liberty's risk relative to the proxy groups for purposes of determining the appropriate deemed equity ratio.



As shown in Figure 1, the average results from the various models and proxy groups cover a range from 9.9 percent to 11.5 percent using the forward-looking CAPM, and from 9.6 percent to 11.0 percent using an Alternative CAPM analysis which uses a market risk premium based on the average of projected and historical return data for both Canada and the U.S. As discussed in my risk assessment, a higher ROE than the average is justified based on the relative risk of Liberty in relation to the proxy group companies. I therefore consider 11.5 percent, the average upper end of the proxy results for the Canadian Proxy Group using the forward-looking CAPM, most appropriate for Liberty. This reflects a 160 basis point differential over the lower risk U.S. proxy group benchmark using the forward-looking CAPM, which I believe is appropriate for a company of Liberty's risk profile.

**Figure 1: Summary of Mean Results<sup>1</sup>**

	CANADIAN UTILITY PROXY GROUP	U.S. GAS PROXY GROUP	NORTH AMERICAN PROXY GROUP
CONSTANT GROWTH DCF	12.05%	9.58%	10.95%
MULTI-STAGE DCF	10.92%	8.97%	10.05%
FORWARD-LOOKING CAPM	11.61%	11.44%	11.54%
ALTERNATIVE CAPM	10.12%	9.97%	10.06
RISK PREMIUM		9.71%	
AVERAGE WITH FORWARD- LOOKING CAPM	11.5%	9.9%	10.8%
AVERAGE WITH ALTERNATIVE CAPM	11.0%	9.6%	10.4%

## **B. Recommendation**

These recommendations are based on a cost of capital analysis utilizing the DCF, CAPM and Risk Premium models, and a combination of U.S., Canadian and North American proxy group companies. I have also considered the Board's regulatory precedents, including the 2016 determination that Liberty is no longer in the development period, Liberty's business and financial risks, and issues around the Development O&M deferral account and the Regulatory

<sup>1</sup> Results include 50 basis points for flotation costs and financing flexibility, except for Risk Premium results for U.S. proxy group.



deferral account. Based on the foregoing, I recommend an authorized return for Liberty of 11.5 percent. Given the risk profile of Liberty relative to other companies in the Canadian and U.S. comparator groups, an equity ratio of 50.0 percent is my recommendation. This ratio is still below the average of larger and lower risk U.S. gas distributors, but higher than other Canadian gas distributors justified by a smaller customer, throughput and revenue profile which imposes greater business risk. These recommendations meet both the requirements of the fair return standard and stand-alone principle, as well as provide sufficient support for the financial integrity and soundness of Liberty.

### III. LEGAL REQUIREMENTS AND KEY REGULATORY PRECEDENTS FOR THE DETERMINATION OF A FAIR RETURN

#### A. The Fair Return Standard

The principles surrounding the concept of a “fair return” for a regulated company were established by the Supreme Court of Canada in the *Northwestern Utilities v. City of Edmonton* (1929) (“Northwestern”) case, where the Supreme Court found:

By a fair return is meant that the company will be allowed as large a return on the capital invested in its enterprise (which will be net to the company) as it would receive if it were investing the same amount in other securities possessing an attractiveness, stability and certainty equal to that of the company’s enterprise.<sup>2</sup>

The United States law regarding fair return for utility cost of capital has evolved similarly. The U.S. Supreme Court set out guidance in the bellwether cases of *Bluefield Water Works and Hope Natural Gas Co.* as to the legal criteria for setting a fair return. In *Bluefield Water Works & Improvement Company v. Public Service Commission of West Virginia* (262 U.S. 679, 693 (1923)), the Court indicated that:

The return should be reasonably sufficient to assure confidence in the financial soundness of the utility and should be adequate, under efficient and economical management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties. A rate of return may be reasonable at one time and

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<sup>2</sup> *Northwestern* at p. 186.





1                   become too high or too low by changes affecting opportunities for  
2                   investment, the money market and business conditions generally.<sup>3</sup>

3   The U.S. Supreme Court further elaborated on this requirement in its decision in *Federal*  
4   *Power Commission v. Hope Natural Gas Company* (320 U.S. 591, 603 (1944)). The Court  
5   described the relevant criteria as follows:

6                   From the investor or company point of view it is important that there be  
7                   enough revenue not only for operating expenses but also for the capital  
8                   costs of the business. These include service on the debt and dividends  
9                   on the stock... By that standard the return to the equity owner should  
10                  be commensurate with returns on investments in other enterprises  
11                  having corresponding risks. That return, moreover, should be sufficient  
12                  to assure confidence in the financial integrity of the enterprise, so as to  
13                  maintain its credit and to attract capital.<sup>4</sup>

14   With the passage of time, the “fair return standard” has been interpreted many times  
15   in both Canada and the U.S. In Canada, for example, the National Energy Board (“NEB”,  
16   predecessor to the Canadian Energy Regulator) summarized its interpretation of the “fair  
17   return standard” in its RH-2-2004 Phase II Decision and more recently reiterated that  
18   interpretation in its Trans Québec & Maritimes Pipelines Inc. RH-1-2008 Decision, at pp. 6-7:

19                  The [NEB] is of the view that the fair return standard can be articulated  
20                  by having reference to three particular requirements. Specifically, a fair  
21                  or reasonable return on capital should:

- 22                               • be comparable to the return available from the application of the  
23                               invested capital to other enterprises of like risk (the comparable  
24                               investment standard);
- 25                               • enable the financial integrity of the regulated enterprise to be  
26                               maintained (the financial integrity standard); and
- 27                               • permit incremental capital to be attracted to the enterprise on  
28                               reasonable terms and conditions (the capital attraction  
29                               standard).

30                  In the [NEB]’s view, the determination of a fair return in accordance with  
31                  these enunciated standards will, when combined with other aspects for

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<sup>3</sup> Bluefield Waterworks & Improvement Co., v. Public Service Commission of West Virginia, 262 U.S. 679 (1923).

<sup>4</sup> Federal Power Commission v. Hope Natural Gas Co., 320 U.S. 591 (1944).



the Mainline's revenue requirement, result in tolls that are just and reasonable.<sup>5</sup>

### **B. The Stand-Alone Principle**

The stand-alone principle provides that a utility should be regulated as if it were a stand-alone entity, raising capital on the merits of its own business and financial characteristics. In this way, capital may be efficiently allocated, with each business segment earning a return based on its own unique set of risks and business characteristics regardless of affiliations within the holding company structure. In order to establish a fair return and satisfy the Stand-Alone Principle, the utility must be allowed a return sufficient to meet all three requirements of the Fair Return Standard on the basis of the utility's individual merits.

### **C. The Relationship Between Capital Structure and ROE**

The cost of common equity depends in part on the company's capital structure. The equity ratio and equity rate of return must therefore be considered together to determine whether the Fair Return Standard has been met. Other factors being equal, firms with lower common equity ratios require higher rates of return to compensate shareholders for the additional financial risks. Consequently, when a regulator approves a capital structure, that decision impacts the required rate of return on common equity. As fixed debt obligations increase, the equity buffer (unencumbered earnings available to shareholders) narrows and the required equity return increases to compensate investors for the additional risk to earnings. The fair return, therefore, depends on both the equity return and capital structure.

The risk to the earnings stream of the utility is a function of both its business and financial risks. Business risk refers to the political and regulatory environment that the utility operates within and the operational and competitive forces that could potentially exert pressure on earnings. Financial risk refers to the amount of debt in the utility's capital structure and the extent to which fixed debt obligations must be met before utility shareholders receive their returns. Both business and financial risks therefore need to be considered when setting the capital structure.

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<sup>5</sup> National Energy Board RH-2-2004 Reasons for Decision, TransCanada PipeLines Ltd, Phase II, April 2005, at 17.



## **IV. BUSINESS AND ECONOMIC CONDITIONS**

### **A. Summary and Relevance to Utility Cost of Capital**

Utilities raise debt and equity in an increasingly global market influenced by macroeconomic fundamentals, capital markets and central bank policies. The cost of debt for utilities is observable, but the cost of equity must be estimated with an informed view of the macroeconomic and capital market factors that impact the analysis. Projections of real GDP growth, inflation and interest rates are direct inputs to the cost of capital models. Likewise, the cost of equity for regulated utilities is influenced by factors such as central bank policy, investor confidence, and uncertainty and volatility in financial markets. Each of these factors is discussed in this section of my report, starting with macroeconomic conditions in Canada and the U.S,

### **B. Economic Conditions**

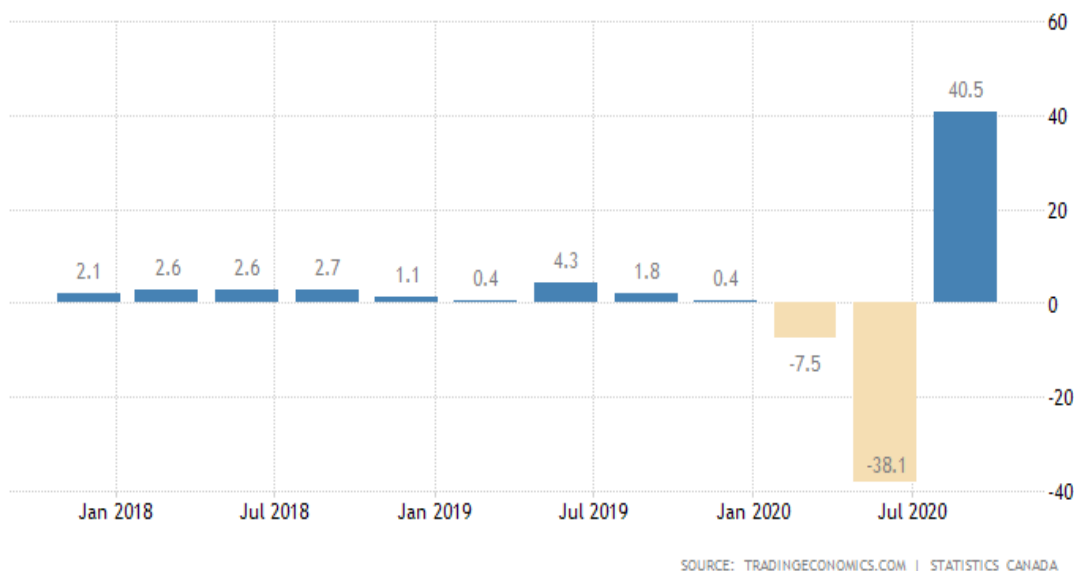
At the time of the 2010 filing by EGNB, the economy in both Canada and the U.S. was just beginning to recover from the effects of the financial crisis and the Great Recession. Central banks in both Canada and the U.S. would subsequently provide additional monetary stimulus in the form of Quantitative Easing, which was designed to lower interest rates on the long-end of the yield curve. As of February 2021, the economies in both Canada and the U.S. are expected to emerge from sharp contractions in 2020 that were precipitated by the COVID-19 pandemic, which forced the closure of many businesses as economies went into lockdown to control the spread of the virus. A vaccine has been developed and is being distributed in both countries, and there is hope for economic improvement, particularly in the second half of 2021. However, extraordinary policy measures were necessary from central banks and federal governments in both Canada and the U.S. to stabilize the financial system in the immediate aftermath of the pandemic, to support economic growth, and to provide additional unemployment benefits to those in industries most affected by COVID. This policy response caused a precipitous drop in interest rates on government and corporate bonds. Those bond yields, however, have been increasing steadily since July 2020 as investors anticipate the economic recovery.



## 1. Canada

The Canadian economy experienced steady but slow economic growth in 2018 and 2019. However, as shown in Figure 2, the economy in Canada contracted sharply in the first and second quarters of 2020, as many businesses and schools were forced to close to limit the spread of COVID-19. Real GDP declined at an annualized rate of 7.5 percent in the first quarter of 2020, followed by a decline of 38.1 percent in the second quarter, which represents the sharpest contraction ever over the period from 1961 through 2020, according to Statistics Canada. Economic growth rebounded in the third quarter of 2020 at an annual rate of 40.5 percent, also the largest percentage increase over the past 60 years.

**Figure 2: Canadian Real GDP Growth<sup>6</sup>**



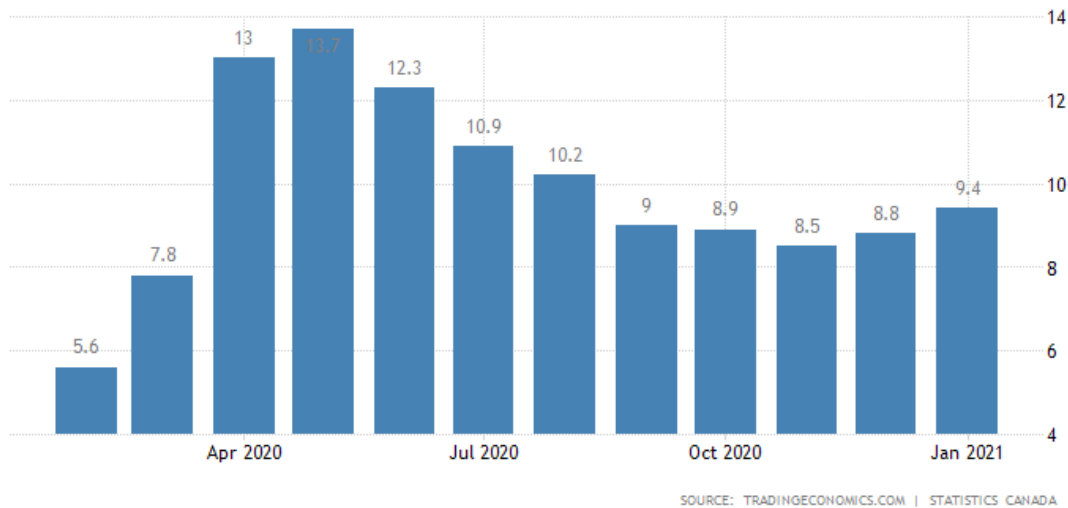
As shown in Figure 3, the unemployment rate in Canada increased from 5.6 percent in February 2020 to 13.7 percent in May 2020, which represents the highest level for unemployment in Canada over the period from 1966-2020. The rate declined steadily over the remainder of 2020, but increased again in January 2021 and currently stands at 9.4

<sup>6</sup> Trading Economics, <https://tradingeconomics.com/canada/gdp-growth-annualized>



1 percent.<sup>7</sup> Consumer prices in Canada have been weak, increasing at an annual rate of 1.0  
2 percent between January 2020 and January 2021.<sup>8</sup>

3 **Figure 3: Canadian Unemployment Rate**



4

## 5 **2. United States**

6 After experiencing steady economic growth from 2017-2019, measures taken to contain  
7 COVID-19 and associated impacts on business and consumer behavior forced the U.S.  
8 economy into a sharp recession in 2020. As shown in Figure 4, according to the Bureau of  
9 Economic Analysis, real GDP decreased at an annual rate of 5.0 percent in the first quarter of  
10 2020 and at a startling annual rate of 31.4 percent in the second quarter before rebounding  
11 in the third quarter at an annual rate of 33.4 percent. The “advance” estimate for the fourth  
12 quarter shows GDP expanded at an annual rate of 4.0 percent.

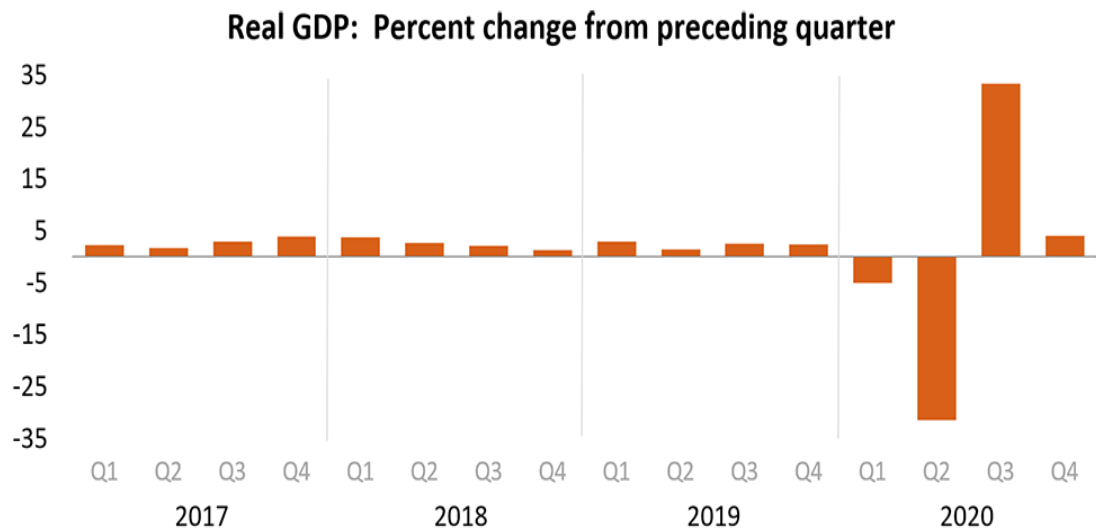
<sup>7</sup> Trading Economics.

<sup>8</sup> Trading Economics.



1

**Figure 4: U.S. Real GDP Growth<sup>9</sup>**



U.S. Bureau of Economic Analysis

Seasonally adjusted at annual rates

2

3 As shown in Figure 5, the U.S. unemployment rate steadily declined over the past ten years  
4 from 9.1 percent in January 2011 to 3.6 percent in December 2019. After reaching a low of  
5 3.5 percent in January 2020, the unemployment rate spiked to 14.8 percent in April 2020 as  
6 businesses were forced to close due to COVID-19, before steadily falling to 6.3 percent in  
7 January 2021 as most businesses were allowed to re-open and many sectors of the economy  
8 returned to something closer to normal.<sup>10</sup> Further, the Consumer Price Index increased at an  
9 annual rate of 1.8 percent in 2019 and 1.2 percent in 2020. The average annual increase in  
10 consumer prices from 2011 through 2020 was 1.73 percent.<sup>11</sup>

<sup>9</sup> U.S. Bureau of Economic Analysis, <https://www.bea.gov/data/gdp/gross-domestic-product>

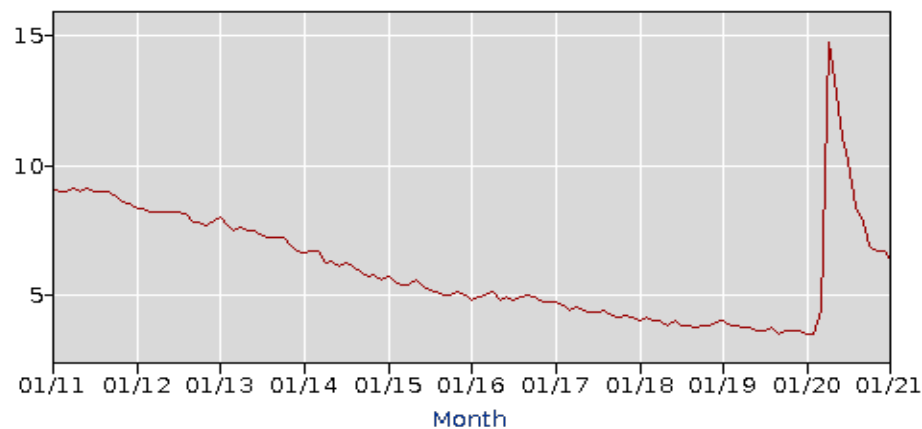
<sup>10</sup> Source: U.S. Bureau of Labor Statistics, February 25, 2021.

<sup>11</sup> *Ibid.*



1

**Figure 5: U.S. Unemployment Rate**



2

### 3 **C. Policy Response of Central Banks and Federal Government**

4 In response to the economic effects of COVID-19, central banks and federal governments in  
5 both Canada and the U.S. took aggressive steps to stabilize financial markets in the Spring of  
6 2020 and to provide ongoing support for the economies of both countries.

#### 7 **1. Canada**

8 On March 4, 2020, the Bank of Canada ("BOC") announced a 50 basis point reduction in the  
9 overnight target rate from 1.75 percent to 1.25 percent. The BOC explained its rationale as  
10 follows:

11 Before the outbreak, the global economy was showing signs of  
12 stabilizing, as the Bank had projected in its January Monetary Policy  
13 Report (MPR). However, COVID-19 represents a significant health  
14 threat to people in a growing number of countries. In consequence,  
15 business activity in some regions has fallen sharply and supply chains  
16 have been disrupted. This has pulled down commodity prices and the  
17 Canadian dollar has depreciated. Global markets are reacting to the  
18 spread of the virus by repricing risk across a broad set of assets, making  
19 financial conditions less accommodative. It is likely that as the virus  
20 spreads, business and consumer confidence will deteriorate, further  
21 depressing activity.<sup>12</sup>

<sup>12</sup> Press release: Bank of Canada lowers overnight rate target to 1 ¼ percent, March 4, 2020.



1 This was followed by two further reductions of 50 basis points each in the BOC's overnight  
2 rate target on March 16, 2020 and March 27, 2020, bringing the overnight rate target from  
3 1.25 percent to 0.25 percent where it has remained.

4 The federal government has taken aggressive steps to provide fiscal stimulus to support the  
5 Canadian economy during the course of the COVID-19 pandemic. These programs have  
6 specifically targeted financial assistance for those who are unemployed, as well as tax  
7 reductions for individuals and businesses. *The Wall Street Journal* ("WSJ") reported that  
8 Canada had spent approximately \$382 billion on these measures. In addition, the federal  
9 government announced plans to inject another \$100 billion into the Canadian economy over  
10 the three years following the recession to ensure the sustainability of the economic recovery.  
11 While this policy response has provided crucial support for the Canadian economy, the WSJ  
12 also noted that it has caused the budget deficit to swell to approximately \$381.6 billion, or  
13 17.5 percent of GDP, as compared with a deficit equal to 1.7 percent of GDP in the previous  
14 12 month period. Due to concerns over the rapid increase in Canada's spending, Fitch  
15 downgraded the credit rating for Canada in June 2020 from AAA to AA+. However, S&P and  
16 Moody's have maintained their AAA rating for Canada.<sup>13</sup>

17 In its January 2021 Monetary Policy Report, the BOC indicated that its economic projections  
18 depend on important assumptions about how the pandemic will evolve. In particular, the  
19 BOC noted:

20 Canada and many countries are experiencing a setback in their  
21 economic recoveries. Rapid increases in the number of COVID-19  
22 infections have prompted governments to impose stricter containment  
23 measures and lockdowns (Chart 1). However, an earlier-than-  
24 anticipated start to vaccination programs has pulled forward the  
25 timeline for achieving broad immunity and improved the outlook for  
26 growth in the medium term. Until the virus is under control and there is  
27 no need for physical distancing, the recuperation phase of the economic  
28 recovery will likely remain choppy and uneven. Considerable fiscal and  
29 monetary stimulus continue to be required to support households and  
30 businesses.<sup>14</sup>

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<sup>13</sup> The Wall Street Journal, "Canada's COVID-19 Response is to Spend Heavily and Ignore the Deficit – For Now," December 1, 2020.

<sup>14</sup> Bank of Canada, Monetary Policy Report, January 2021, at 1. (Chart 1 omitted)





1 In the same report, the BOC underscored three key messages about the outlook for the  
2 Canadian economy:<sup>15</sup>

3 1) The Canadian economy had strong momentum going into the last quarter of 2020,  
4 but the resurgence of the virus and the reintroduction of extensive lockdown  
5 measures are now restraining economic activity and imposing new hardships on  
6 households and businesses. Growth in the first quarter of 2021 is expected to be  
7 negative.

8 2) Unemployment in Canada remains elevated, particularly for workers in high-  
9 contact service industries. These workers will once again be the hardest hit by  
10 the lockdown measures.

11 3) With vaccines being rolled out earlier than anticipated, the recuperation in the  
12 Canadian economy is now more secure, and medium term growth is forecast to  
13 be stronger. Nevertheless, considerable economic slack remains in the economy,  
14 and a complete recovery will take some time. As result, inflation is not anticipated  
15 to return sustainably to its 2 percent target until 2023.

## 16 2. United States

17 In response to the economic effects of COVID-19, the Federal Reserve decreased the federal  
18 funds rate twice in March 2020, resulting in a target range of 0.00 percent to 0.25 percent  
19 and also announced plans to increase its holdings of both Treasury and mortgage-backed  
20 securities. In addition, on March 23, 2020, the Federal Reserve began expansive programs to  
21 support credit to large employers, including the Primary Market Corporate Credit Facility to  
22 provide liquidity for new issuances of corporate bonds, and the Secondary Market Corporate  
23 Credit Facility to provide liquidity for outstanding corporate debt issuances. Further, the  
24 Federal Reserve supported the flow of credit to consumers and businesses through the Term  
25 Asset-Backed Securities Loan Facility.<sup>16</sup> These bond buying programs by the Federal Reserve

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<sup>15</sup> Ibid, at 2.

<sup>16</sup> Federal Reserve Board Press Release, "Federal Reserve announces extensive new measures to support the economy," March 23, 2020.



1 provided \$700 billion in liquidity to financial markets, through purchases of government and  
2 corporate bonds and mortgage-backed securities.

3 In addition to the Federal Reserve's response, the U.S. Congress also passed fiscal stimulus  
4 programs. On March 27, 2020, the Coronavirus Aid, Relief, and Economic Security Act was  
5 signed into law, providing a large fiscal stimulus package aimed at mitigating the economic  
6 effects of the coronavirus. While these expansive monetary and fiscal programs have  
7 provided for greater price stability, volatility in equity markets remains well above long-term  
8 historical levels and is expected to remain above long-term historical levels over the near-  
9 term. The extraordinary measures taken by the Federal Reserve to stabilize the economy and  
10 financial markets have thus far been successful, but in doing so have driven investors from  
11 very low yielding bonds into equities, creating upward pressure on valuations and downward  
12 pressure on yields for dividend paying companies such as utilities. Furthermore, the U.S.  
13 Congress recently approved additional stimulus of \$1.9 trillion in response to the ongoing  
14 economic effects of COVID-19. Additional fiscal stimulus is likely to increase pressure on the  
15 inflation rate, and the bond market may be at risk of a sharp upward spike in interest rates if  
16 inflation is higher than currently anticipated by investors.

17 These programs allow the Federal Reserve to purchase government and corporate bonds  
18 from banks. The banks then receive cash from the Federal Reserve, which results in an  
19 expansion of the money supply. This increase in the money supply keeps short-term interest  
20 rates low and increases the ability of banks to lend to consumers and businesses. Investors  
21 in longer term bonds also respond, which affects the entire duration of the yield curve, from  
22 very near-term rates all the way out to 30-year yields. Continued access to capital is  
23 particularly important in current market conditions because it allows companies to offset the  
24 negative effects of COVID-19 on business operations. Figure 6 shows that the programs  
25 enacted by the Federal Reserve have resulted in an unprecedented expansion of the money  
26 supply as measured by M2<sup>17</sup> in recent months. That expansion has been much greater than  
27 the increase following the Federal Reserve's response to the Great Recession of 2008/2009.

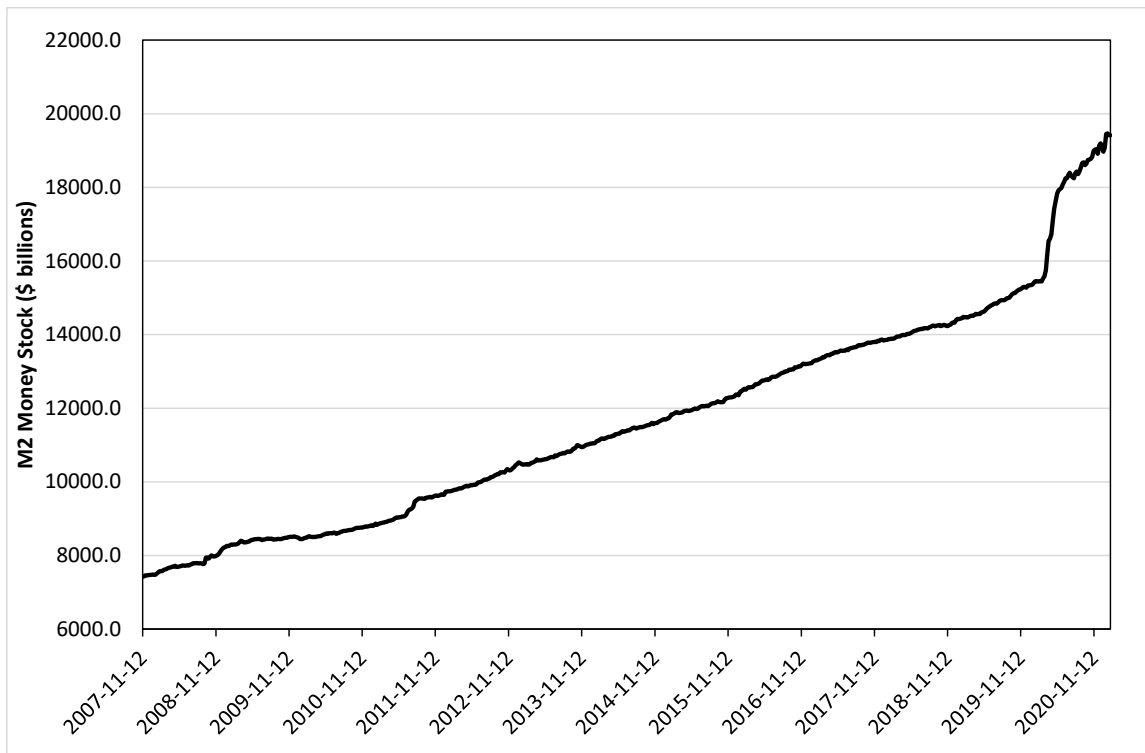
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<sup>17</sup> M2 is defined by the Federal Reserve as follows: M2 includes a broader set of financial assets held principally by households. M2 consists of M1 plus: (1) savings deposits (which include money market deposit accounts, or MMDAs); (2) small-denomination time deposits (time deposits in amounts of less than \$100,000); and (3) balances in retail money market mutual funds (MMMFs).



1 This again demonstrates the level of intervention that was necessary to provide some  
2 stability to markets.

3 **Figure 6: M2 Money Stock – September 2009 – February 2021<sup>18</sup>**



4  
5

#### 6 **D. Interest Rates**

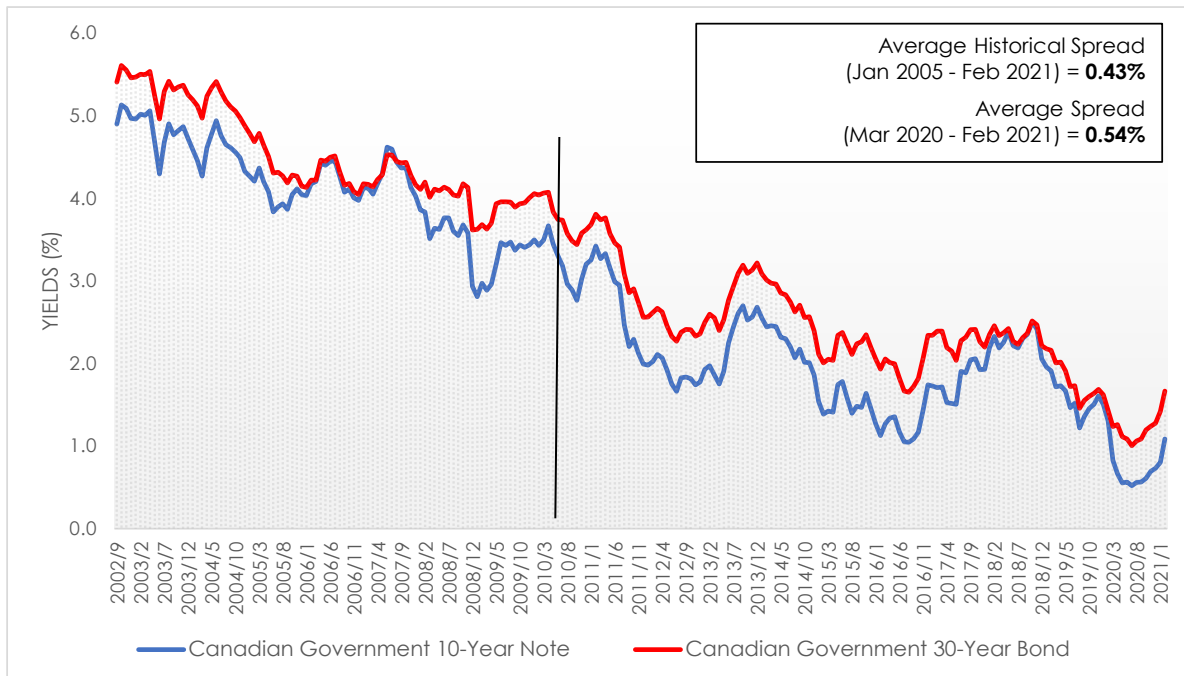
7 The 10- and 30-year long-term Canadian government bond yields of 3.30 percent and 3.74  
8 percent, respectively, in June 2010 (approximating the time when the Board last considered  
9 evidence on the cost of capital for Liberty), moved lower to an average of 1.08 percent and  
10 1.66 percent in February 2021. The spreads between 10- and 30-year Canadian government  
11 bonds increased from 44 basis points (“bps”) in June 2010 to 58 bps in February 2021, above  
12 the historical average of 43 bps from January 2005 through February 2021. As Figure 7  
13 shows, the overall decline in bond yields for both the Canadian 10- and 30-year government  
14 bonds reversed sharply in the latter part of last year after trading at or near all-time lows in  
15 July 2020. Continuing this more recent trend, current 10 and 30 year Canadian bond yields

<sup>18</sup> Board of Governors of the Federal Reserve System (US), M2 Money Stock [M2], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/M2>, February 1, 2021.



stand at 1.49 percent and 1.95 percent, as of March 24, 2021. As explained in a subsequent section of this testimony (see Risk Free Rate), I have utilized a forecast 10-year bond yield and current 10-30 year bond spread in the CAPM and Risk Premium models to produce a forward-looking cost of capital analysis.

**Figure 7: Canadian Government Bond Yields - 10-Year and 30-Year<sup>19</sup>**

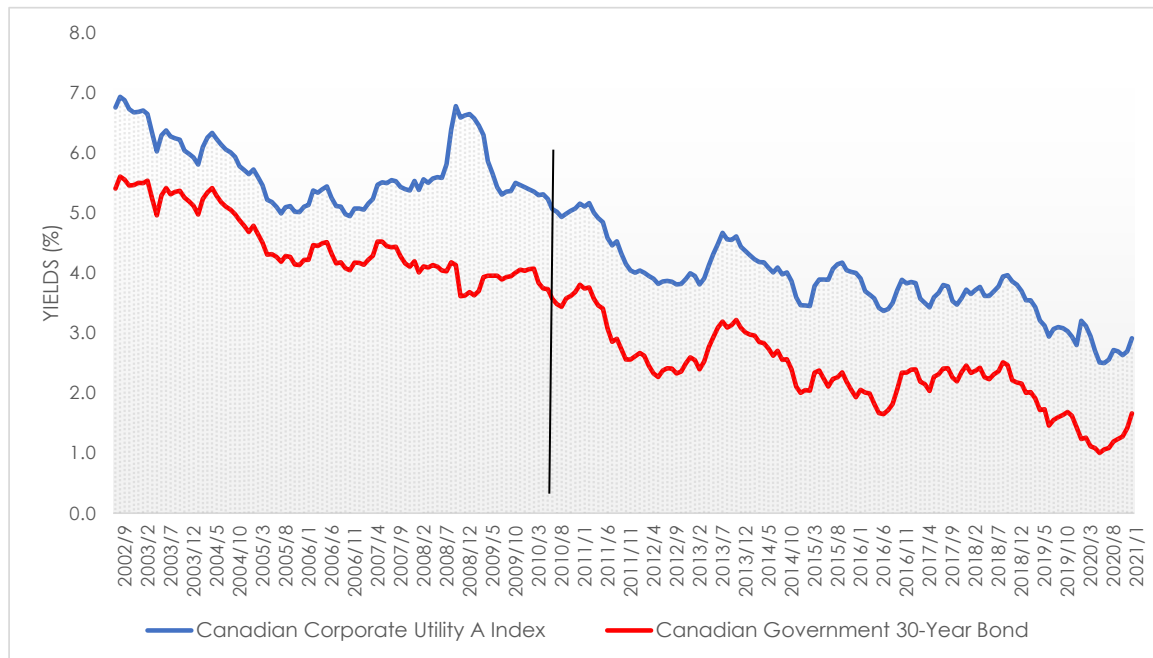


Measured against 2010, yields on corporate bonds have also declined since June 2010. As Figure 8 illustrates, the Canadian Utility “A” rated bond yield index was 5.31 percent in June 2010 compared to 2.91 percent in February 2021, after reaching a low of 2.50 percent in August 2020.

<sup>19</sup> Bloomberg series GCAN10YR and GCAN30YR as of February 26, 2021.



1 **Figure 8: Canadian Utility “A” Rated Bond vs. 30-Year Canada Long Bond<sup>20</sup>**



2  
3  
4 According to Consensus Economics’ Long-Term Financial Forecast, shown in Figure 9,  
5 Canadian and U.S. 10-year government bond yields are expected to rise gradually to reflect  
6 movement towards more normalized economic policy in the respective economies. Notably,  
7 Canadian government bond yields are projected to exceed those in the U.S. starting in 2022  
8 and continuing through the forecast period (i.e., 2030).

9 **Figure 9: Long-Term Forecast for 10-Year Government Bond Yields<sup>21</sup>**

	2021	2022	2023	2024	2025	2026-2030
Canada	1.1	1.6	2.0	2.4	2.7	2.9
U.S.	1.1	1.5	1.8	2.1	2.4	2.7

<sup>20</sup> Bloomberg series C29530Y and GCAN30YR as of February 26, 2021.

<sup>21</sup> Consensus Forecasts by Consensus Economics Inc., Survey Date October 12, 2020, at 3 and 28.



## 1        **E. Yield Curve**

2        While the BOC and Federal Reserve have communicated their intention to keep short-term  
3        interest rates low for an extended period, this does not have a direct bearing on long-term  
4        interest rates, although their purchases of long-term bonds can moderate long-term rates.  
5        One of the leading indicators used by investors to determine what stage of the business cycle  
6        the economy is in is the yield curve, which measures the difference between long-term and  
7        short-term interest rates. A flat or inverted yield curve occurs when long-term interest rates  
8        are equal to or less than short-term interest rates, which usually occurs prior to a recession,  
9        while a steepening yield curve occurs when the difference between long-term interest rates  
10       and short-term interest rates is increasing and indicates that the economy is entering a period  
11       of economic expansion following a recession.<sup>22</sup>

12       I calculated the difference between the yield on the 10-year Treasury bond and the 2-year  
13       Treasury bond from January 2016 to February 2021. I selected the 10-year Treasury bond  
14       yield to represent long-term interest rates and the 2-year Treasury bond to represent short-  
15       term interest rates. As shown in Figure 10, the yield curve has been steepening in the U.S.  
16       since June 2020 and has increased to approximately 130 bps, which is a level not seen since  
17       January 2017. The steepening yield curve indicates that investors expect economic growth  
18       and inflation to increase in the near-term. As a result, they are expected to rotate out of long-  
19       term government bonds to avoid being locked into low interest rates for the long-term. The  
20       steeper yield curve signals that higher yields are required by investors to invest in long-term  
21       government bonds.

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<sup>22</sup> "What is a yield curve", Fidelity.com. <https://www.fidelity.com/learning-center/investment-products/fixed-income-bonds/bond-yield-curve>



**Figure 10: 10-year U.S. Treasury Bond Yield Minus 2-year Treasury Bond Yield**

**January 2016 – February 2021<sup>23</sup>**



## **F. Volatility in Equity Prices**

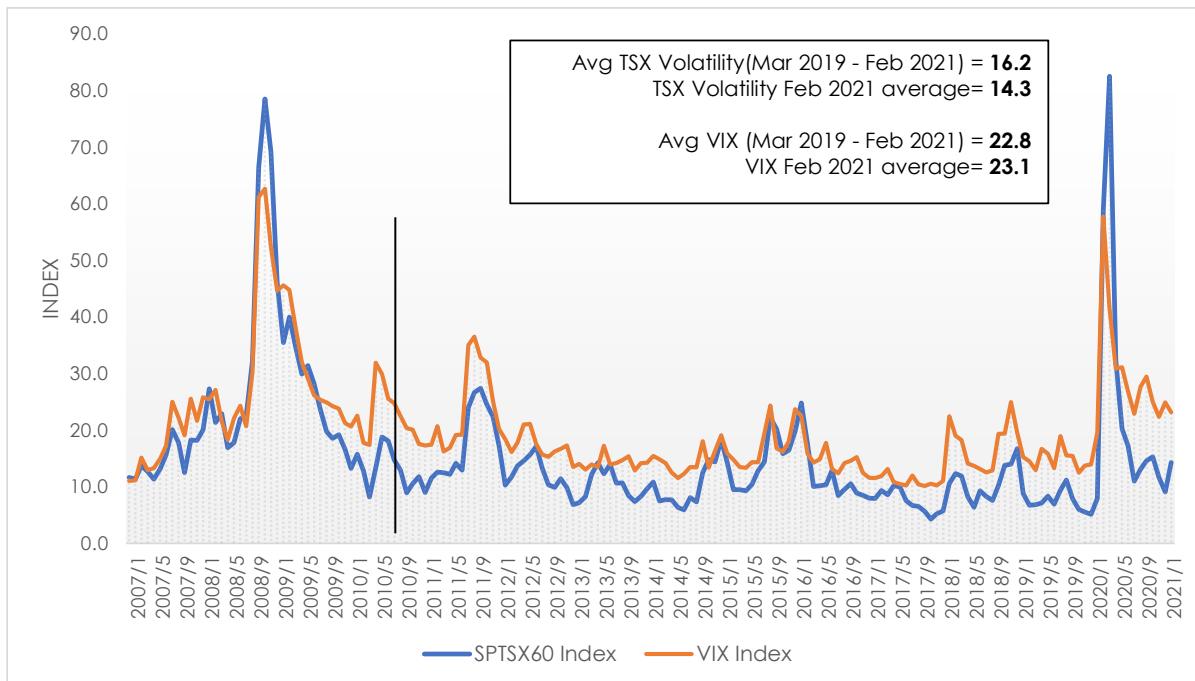
Stock prices in both Canada and the U.S. fell sharply from mid-February through April 2020, as investors reacted to fears over a global pandemic (the spread of COVID-19) and a sharp decline in crude oil prices. The TSX Composite Index declined by approximately 30 percent from February 20, 2020 through March 12, 2020, while the S&P 500 decreased by nearly 27 percent over the same period. Shares of utility companies also fell in both countries, with the TSX Utilities Index down by more than 26 percent and the S&P Utilities Index off by more than 23 percent. At the same time, volatility in equity markets spiked to levels not seen since the financial crisis and Great Recession of 2008-2009. As shown in Figure 11, the implied volatility for the Canadian equity markets (as measured by the TSX Volatility Index) rose to an average of 82.50 in April 2020, while in the U.S. implied volatility (as measured by the VIX) followed a similar path, rising to an average of 57.74 in March 2020. Volatility has since

<sup>23</sup> Federal Reserve Bank of St. Louis, 10-Year Treasury Constant Maturity Minus 2-Year Treasury Constant Maturity [T10Y2Y], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/T10Y2Y>, February 26, 2021.



1 receded in both countries, but remains above the long-term monthly median since January  
2 2007 of 12.41 in Canada and 17.37 in the U.S.

3 **Figure 11: Canadian and U.S. Volatility Indexes<sup>24</sup>**



4  
5  
6 This sudden and dramatic spike in implied volatility in 2020 reflected the prevailing  
7 uncertainty and fear among equity investors. While volatility in equity markets declined in  
8 both Canada and the U.S. after it became apparent to investors that the aggressive monetary  
9 and fiscal policy response was having the desired impact on the economy and financial  
10 markets, there is ongoing uncertainty as reflected by the fact that volatility remains above  
11 the long-term median level in both countries. This is important because the equity risk  
12 premium increases when volatility is at elevated levels.

### 13 **G. High Valuations and Low Dividend Yields**

14 The levels of long-term government bond yields have affected the valuations of utility shares  
15 in both Canada and the U.S. As shown in Figure 12, the 30-year Canadian government bond  
16 yielded more than 4.00 percent in 2008. Long Canada bond yields have declined steadily

<sup>24</sup> Bloomberg Professional. Data through February 26, 2021.





1 since then as central banks in Canada and around the world pursued a policy of monetary  
2 policy accommodation. In response, the TSX Utilities Index increased substantially as  
3 dividend paying stocks became more valuable to investors due to their higher dividend yields  
4 compared to yields on long Canada bonds. After reaching a trough in the summer of 2016,  
5 government bond yields in Canada started increasing and utility shares, as measured by the  
6 TSX Utilities Index, became less attractive relative to government bonds. More recently, the  
7 TSX Utilities Index declined sharply in March of 2020 in response to concerns over COVID-  
8 19, but has rebounded to new highs in recent weeks. Yields on 30-year Canadian government  
9 bond also fell sharply in the spring of 2020 as central banks eased monetary policy to offset  
10 the economic effects of the pandemic, but interest rates have increased in 2021 to levels last  
11 seen in May 2019 as investors anticipate an economic recovery.

**Figure 12: TSX Utilities Index vs. 30-year Canadian Gov't Bond Yield<sup>25</sup>**

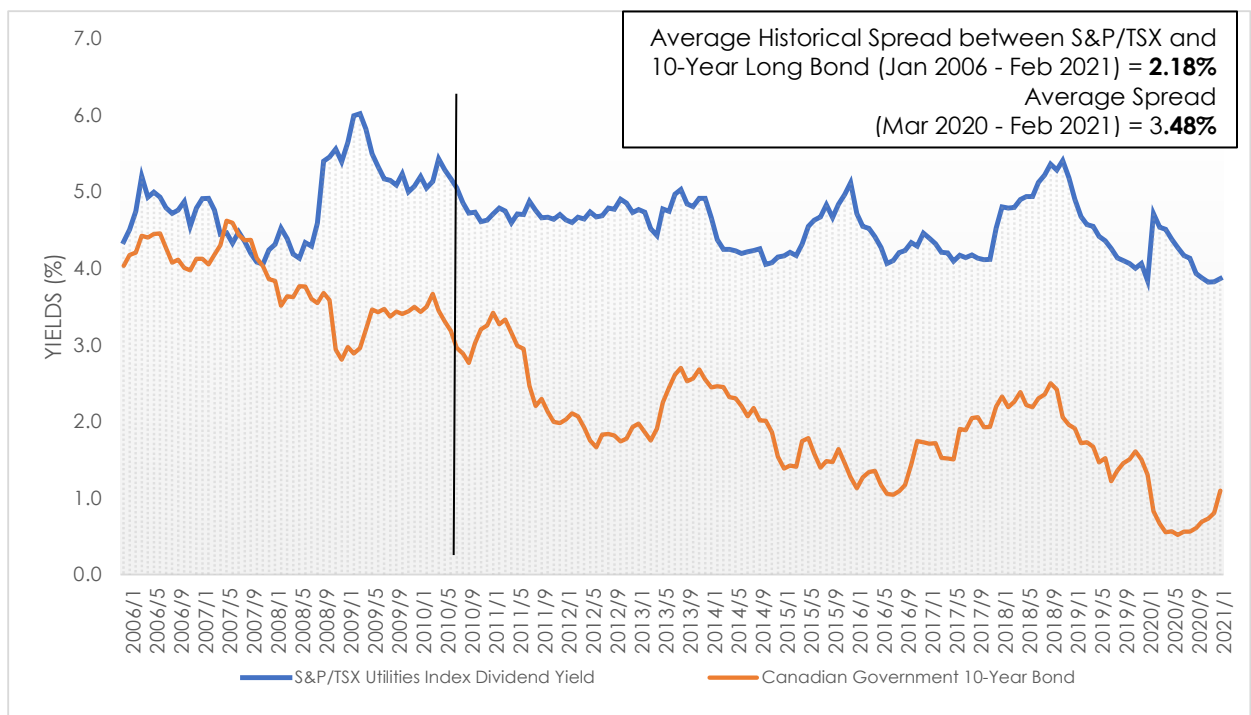


<sup>25</sup> Bloomberg Professional as of February 26, 2021.



Another aspect of this relationship is observed with utility dividend yields, which historically have enjoyed a high degree of correlation with government bond yields. However, since the Great Recession in 2008-2009 they have diverged. This trend is illustrated in Figure 13. The average spread between the S&P/TSX Utilities Index dividend yield and the 10-year Government of Canada bond yield was 3.48 percent from March 2020 through February 2021, compared with 2.18 percent between January 2006 and February 2021. One interpretation is that investors are expecting higher government bond yields in the future, so rather than take the risk of rising rates diminishing the value of government bonds, they are favoring a low-risk substitute—utilities. Another interpretation is that investors understand that government bond yields are responding to unique circumstances and actions of the central banks, and are not indicative of the risks of utility investments.

**Figure 13: S&P/TSX Utilities Index Dividend Yield vs. 10-Year GOC Bond Yields<sup>26</sup>**



While not a perfect substitute, due to the low interest rate environment, investors seeking an alternative to the low yields on government bonds have been purchasing the stocks of dividend-paying companies such as utilities. This has caused the valuations of utility stocks

<sup>26</sup> Bloomberg Series STUTILX and GCAN10YR as of February 26, 2021.



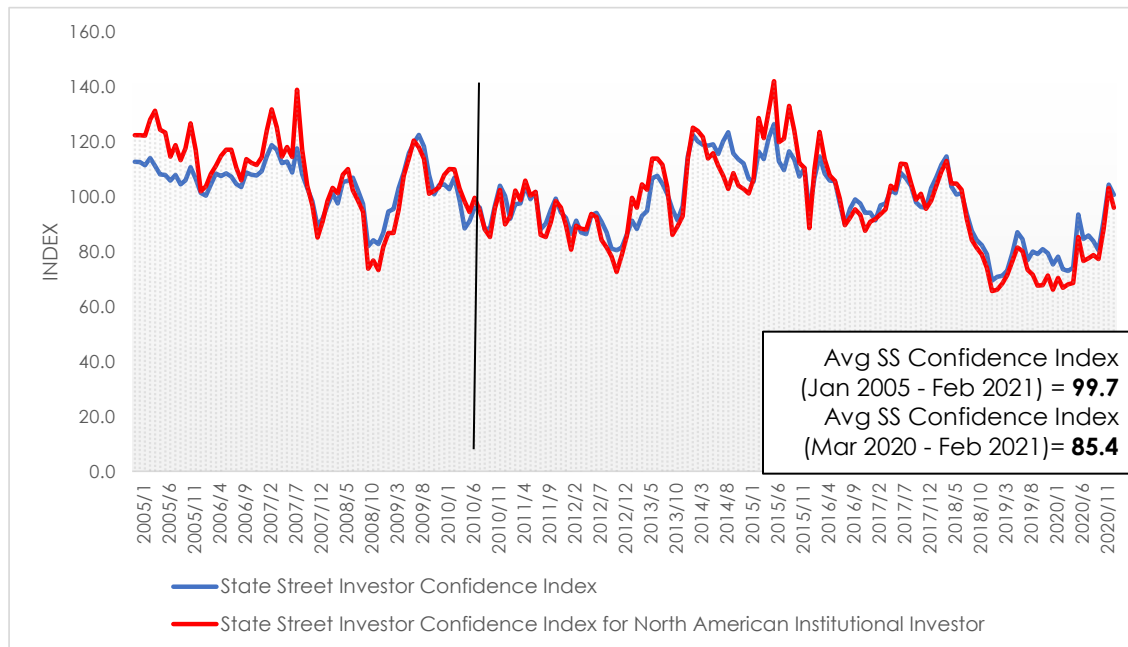
1 in both Canada and the U.S. to increase rather substantially since 2009, while the dividend  
2 yields for these companies have declined. However, according to industry analysts such as  
3 Value Line, these high valuations are not expected to continue, as P/E ratios are projected to  
4 decline from current levels in the period from 2021-2025.

## 5 **H. Investor Confidence**

6 The investor confidence index, published by State Street Bank in the U.S., provides a  
7 quantitative measure of global risk tolerance. The index assesses investor confidence by  
8 reviewing the risk of investor portfolio investments. Figure 14 shows that investor  
9 confidence in 2020 was generally lower than during the global economic crisis of 2008-2009.  
10 After peaking in May 2018 at 114.80, investor confidence turned sharply lower and remained  
11 below 100 from September 2018 through December 2020. In February 2021, the State Street  
12 index stood at 100.80, compared to 88.52 in June 2010 in the aftermath of the financial crisis.  
13 Its path suggests greater confidence in a post-COVID economic recovery.



1 **Figure 14: State Street Investor Confidence Indices<sup>27</sup>**



2

### 3 **I. Integration of Canadian and U.S. Capital Markets**

4 In a world of increasingly linked economies and capital markets, investors seek returns from  
5 a global basket of investment options. Investors distinguish between risks on a country-to-  
6 country basis, factoring in the comparability of the economic and business environments.

7 Country-specific economic and business conditions that affect investment risk can be  
8 measured through a variety of qualitative and quantitative metrics. One such measure,  
9 produced by a prominent international research and credit group, COFACE, ranks Canada and  
10 the U.S. precisely the same from a Country Risk perspective (A3) and Business Risk  
11 perspective (A1), with A1 being the highest ranking.<sup>28</sup>

<sup>27</sup> Bloomberg SSICCONF Index and SSICAMER Index as of February 26, 2021.

<sup>28</sup> <https://www.coface.com/cofaweb/comparer/268-703>



	UNITED STATES OF AMERICA	CANADA
POPULATION	328.5 million	37.5 million
GDP PER CAPITA	65,254 US\$	46,272 US\$
COUNTRY RISK ASSESSMENT	A3	A3
BUSINESS CLIMATE ASSESSMENT	A1	A1
WATCH		
STRENGTHS	<ul style="list-style-type: none"><li>● Flexible labour market</li><li>● Full employment is one of the Federal Reserve's objectives</li><li>● The dollar's predominant role in the global economy</li><li>● 70% of public debt held by residents</li><li>● Highly attractive: leader in research &amp; innovation, huge market</li><li>● Favourable corporate taxation</li></ul>	<ul style="list-style-type: none"><li>● Abundant and diversified energy and mineral resources</li><li>● Fifth-largest oil and gas producer in the world</li><li>● Strong, well-capitalised and well-supervised banking sector</li><li>● Fiscal rigour</li><li>● Immediate proximity to the large U.S. market</li><li>● Development of trade relations (CETA with the EU)</li><li>● Excellent business environment</li></ul>
WEAKNESSES	<ul style="list-style-type: none"><li>● Low labour market participation</li><li>● Households not geographically flexible</li><li>● High household debt (129% of gross disposable income)</li><li>● Polarised political landscape</li><li>● Decrease in fertility rate</li><li>● Outdated infrastructure</li><li>● Growing inequalities</li></ul>	<ul style="list-style-type: none"><li>● Dependent on the U.S. economy (1/2 of FDI stock, integration of the two countries' automotive industries) and energy prices</li><li>● Loss of competitiveness in manufacturing companies due to low labour productivity</li><li>● Insufficient R&amp;D expenditure</li><li>● Decrease in the share of the working population, only just slowed down by high selective immigration</li><li>● High household debt (158% of disposable income in mid-2020)</li><li>● Rapid growth in property prices</li><li>● Energy exports weakened by inadequate supply pipelines to the coasts and the United States, and by the U.S.'s own resources</li></ul>

This suggests that from a business investment perspective, Canada and the U.S. are highly comparable in an increasingly global investment context.

The magnitude and significance of trade between the two countries reflects the high degree of economic interdependence. According to the U.S. Department of State: "The United States and Canada enjoy the world's most comprehensive trading relationship, which supports millions of jobs in each country. The United States and Canada traded goods and services worth \$725 billion in 2019 – nearly \$2 billion per day. Canada and the U.S. are each other's largest export markets, and Canada is the number one export market for more than 30 U.S. States."<sup>29</sup> Canada is currently the U.S.' 2nd largest goods trading partner overall with \$612.1

<sup>29</sup> U.S. Department of State, [https://www.state.gov/u-s-relations-with-canada/#:~:text=The%20United%20States%20and%20Canada%20traded%20goods%20and%20services%20worth%20\\$725%20billion%20in%202019%20%E2%80%93%20nearly%20\\$2%20billion%20per%20day%20.%20Canada%20and%20the%20U.S.%20are%20each%20other's%20largest%20export%20markets%20and%20Canada%20is%20the%20number%20one%20export%20market%20for%20more%20than%2030%20U.S.%20States.%22%29%20Canada%20is%20currently%20the%20U.S.'%202nd%20largest%20goods%20trading%20partner%20overall%20with%20\\$612.1%20billion%20worth%20of%20trade%20between%20the%20two%20countries%20reflects%20the%20high%20degree%20of%20economic%20interdependence.%22](https://www.state.gov/u-s-relations-with-canada/#:~:text=The%20United%20States%20and%20Canada%20traded%20goods%20and%20services%20worth%20$725%20billion%20in%202019%20%E2%80%93%20nearly%20$2%20billion%20per%20day%20.%20Canada%20and%20the%20U.S.%20are%20each%20other's%20largest%20export%20markets%20and%20Canada%20is%20the%20number%20one%20export%20market%20for%20more%20than%2030%20U.S.%20States.%22%29%20Canada%20is%20currently%20the%20U.S.'%202nd%20largest%20goods%20trading%20partner%20overall%20with%20$612.1%20billion%20worth%20of%20trade%20between%20the%20two%20countries%20reflects%20the%20high%20degree%20of%20economic%20interdependence.%22)



1 billion in total (two way) goods trade during 2019.<sup>30</sup> This is an indication of the high degree  
2 of integration between the two economies.

3 Exhibit JMC-2 presents several measures that reflect the overall economic and investment  
4 environment in Canada and the U.S. On balance, the economic and business environments of  
5 Canada and the U.S. are highly integrated and exhibit strong correlation across a variety of  
6 metrics, including GDP growth and government bond yields. From a business risk  
7 perspective, including overall business environment and competitiveness, Canada and the  
8 U.S. are ranked closely when compared against other developed and developing countries.  
9 Based on these macroeconomic indicators, there are no fundamental dissimilarities between  
10 Canada and the U.S. (in terms of economic growth, inflation, or government bond yields) that  
11 would cause a reasonable investor to have a materially different return expectation for a  
12 group of comparable risk utilities in the two countries. My cost of capital analysis is framed  
13 by the conclusion that Canada and the U.S. have comparable macroeconomic and investment  
14 environments. I therefore consider both Canadian and U.S. proxy companies for my analysis.

## 15 **J. Capital Market Conclusions**

16 Although interest rates on government and corporate bonds have declined in recent years,  
17 that does not necessarily suggest that the cost of equity has declined. On the contrary, these  
18 lower interest rates are symptomatic of investor concerns about future economic growth in  
19 both countries and indicate more near-term uncertainty and higher risk for investors in  
20 equity markets as suggested by higher volatility. In addition, interest rates in both Canada  
21 and the U.S. are projected to increase from current levels over the next two to three years, as  
22 shown by the Consensus Economics forecasts. These risks are signaled by a steepening in the  
23 yield curve, as bond yields rise and investors begin to anticipate the economic recovery.

24 Prior to 2020, the pace of economic growth was relatively slow in both countries as compared  
25 with previous recoveries, and in Canada there was elevated concern about future economic  
26 growth in oil-producing provinces such as Alberta and Saskatchewan. Interest rates on  
27 Canadian and U.S. government and corporate bonds moved higher in 2018 before declining  
28 in 2019 due to concerns that global trade tensions might derail the economic expansions in

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20services%20worth,more%20than%2030%20U.S.%20States.

<sup>30</sup> <https://ustr.gov/countries-regions/americas/canada>.



both countries. The economic landscape changed in February 2020 with the COVID-19 pandemic causing a sharp decline in equity prices, a sharp increase in volatility, and aggressive monetary and fiscal stimulus in both Canada and the U.S. As a result of these stimulus measures, markets stabilized and stock prices began moving higher, although the utility sector tended to underperform relative to most other sectors of the economy because the demand for electricity and natural gas was negatively affected among commercial and industrial customers. In 2021, interest rates on government and corporate bonds have moved higher as signs emerge that economic growth will pick up in the second half of the year. In addition, concerns are rising among investors that inflation will be higher than expected as central banks and governments continue to provide monetary and fiscal stimulus to ensure that the economic recovery is sustained once the COVID-19 pandemic subsides.

These macroeconomic and financial market conditions indicate that, while interest rates on government and corporate bonds have declined, the cost of equity has increased because investors perceive higher risk of negative economic outcomes across Canada and the U.S. The decline in yields on Canadian government and corporate bonds reflects this economic uncertainty and elevated risk, but does not suggest that the cost of equity capital has decreased. My conclusions on the changes in economic and capital market conditions are consistent with the results of my financial models, which indicate that the cost of equity for a benchmark distribution utility is higher than the ROE authorized by the Board in the 2010 decision.

## **V. SELECTION OF PROXY COMPANIES**

### **A. Proxy Group Selection**

Since the ROE is a market-based concept, it is necessary to establish a group of companies that is both publicly traded and comparable to Liberty in fundamental business and financial respects to serve as a “proxy” for purposes of ROE estimation. As demonstrated later in this section, the proxy companies used in the ROE analyses possess a set of business and financial characteristics that are similar to Liberty, and thus provide a reasonable basis for the development of ROE estimates.

Notwithstanding the care taken to ensure comparability, market expectations with respect to future risks and growth opportunities vary from entity to entity. Therefore, even within a



group of similarly situated companies, it is common for analytical results to reflect a seemingly wide range. At issue, then, is how to select an ROE estimate in the context of that range. That determination must be based on an assessment of the entity-specific risks relative to the proxy group and the informed judgment and experience of the analyst.

## **B. Precedent for Considering U.S. Data**

Canadian regulators have accepted the use of U.S. data and proxy groups to estimate the allowed ROE for Canadian regulated utilities. The development of a proxy group comprised entirely of Canadian utilities is limited by the small number of publicly traded utilities in Canada and by the fact that many of those Canadian utilities derive a significant percentage of revenues and net income from operations other than regulated service.

The British Columbia Utilities Commission (“BCUC”), for example, has accepted the use of U.S. proxy group data in Canadian ROE analysis, primarily due to the lack of sufficient Canadian data, and in recognition of the need for Canadian utilities to compete for capital in a global marketplace.<sup>31</sup> The CER (formerly the NEB), the OEB and the Régie de L’Energie (Quebec) have also accepted the use of U.S. data and proxy groups for purposes of establishing the allowed ROE and common equity ratio for Canadian electric and gas utilities.<sup>32</sup> In summary, multiple regulatory authorities in Canada have recognized that Canadian utility companies are competing for capital in global financial markets and that Canadian data are limited by the small number of publicly-traded utilities. Regulators have also recognized the integrated nature of Canadian and U.S. financial markets, and the similarity of the utility regulatory regimes.

While there may have been a time when Canadian utilities were considered less risky than U.S. utilities, that perception has changed among investors over the past decade. For example,

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<sup>31</sup> British Columbia Utilities Commission, In the Matter of Terasen Gas Inc., Terasen Gas (Vancouver Island) Inc., Terasen Gas (Whistler) Inc., Return on Equity and Capital Structure, Decision G-158-09, December 16, 2009, at 15-16.

<sup>32</sup> National Energy Board, Reasons for Decision, TQM RH-1-2008 (March 2009), at 66-72; Ontario Energy Board, EB-2009-0084, Report of the Board on the Cost of Capital for Ontario’s Regulated Utilities, December 11, 2009, at 23; and English translation of Régie de l’Energie, Decision 2009-156 (R-3690-2009), Gaz Metro, December 7, 2009, at paragraph [249].





1 in a September 2013 report, Moody's Investors Service ("Moody's") explained its changing  
2 view on the relative risk of U.S. and Canadian utilities as follows:

3 Based on our observations of trends and events, we propose to adopt a  
4 generally more favorable view of the relative credit supportiveness of  
5 the US regulatory environment. Our updated view considers improving  
6 regulatory trends that include the increased prevalence of automatic  
7 cost recovery provisions, reduced regulatory lag, and generally fair and  
8 open relationships between utilities and regulators.<sup>33</sup>

9 In support of this changing view on the relative risk of the US regulatory environment,  
10 Moody's noted the following developments:

- 11 • "We believe that many US regulatory jurisdictions have become more credit  
12 supportive of utilities over time and that the assessment of the regulatory  
13 environment in the US that has been incorporated in the ratings may now be overly  
14 conservative."<sup>34</sup>
- 15 • "While we had previously viewed individual state regulatory risks for US utilities as  
16 being higher than utilities in most other developed countries (where regulation  
17 usually occurs at the national level), we have observed an overall decrease in  
18 regulatory risk in the US."<sup>35</sup>
- 19 • "There have been a number of favorable regulatory changes in recent years. For  
20 example, the increasing prevalence of riders, trackers and other automatic cost  
21 recovery provisions in the US has reduced the amount of time between when a utility  
22 incurs and recovers costs, or 'regulatory lag.' These changes have happened  
23 incrementally – jurisdiction by jurisdiction or even issuer by issuer. We now believe  
24 that these changes, in aggregate, represent a significant improvement in the  
25 timeliness of cost recovery."<sup>36</sup>
- 26 • "We believe the majority of US utilities enjoy relatively fair and open relationships  
27 with their regulators, and that most regulators strive to maintain reliable, financially

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<sup>33</sup> Moody's Investors Service, Proposed Refinements to the Regulated Utilities Rating Methodology and Our Evolving View of US Utility Regulation, September 23, 2013, at 1.

<sup>34</sup> *Ibid.*, at 4.

<sup>35</sup> *Ibid.*

<sup>36</sup> *Ibid.*



1        viable utilities in their states while balancing the needs of the state's commercial,  
2        industrial and residential utility customers."<sup>37</sup>

3        • "A comparison of key financial ratios used under the Regulated Electric and Gas  
4        Utilities Rating Methodology in rating utilities across developed international  
5        jurisdictions with credit supportive regulatory frameworks (including Canada and  
6        Japan) shows that US regulated utilities in recent years have exhibited stronger  
7        financial ratios relative to similarly rated regulated international utility peers."<sup>38</sup>

### 8        **C. Proxy Groups**

9        I developed three proxy groups for the ROE analysis. The screening results and business  
10       profiles of the proxy companies are presented in Exhibit JMC-3. The first proxy group is  
11       comprised of publicly traded, regulated Canadian electric and natural gas utility companies.  
12       Recognizing that there are relatively few publicly-traded companies in the utility sector in  
13       Canada, the only screening criterion was an investment grade credit rating, which all  
14       companies in the sector have. I believe an inclusive Canadian proxy group of companies with  
15       significant distribution operations benefits my analysis by bringing additional Canadian  
16       market perspective. However, I note that several of the Canadian utility companies have an  
17       expanding presence in the U.S. with significant recent acquisitions of U.S. utility companies.  
18       The only Canadian company that I excluded from the proxy group is Algonquin Power &  
19       Utilities Corp., the parent of Liberty, as it is my general practice to exclude the subject  
20       company or its parent from the proxy group due to the circularity it would otherwise create.  
21       The following companies comprise the Canadian Utility Proxy Group:

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<sup>37</sup> *Ibid.*

<sup>38</sup> *Ibid.*, at 5.



**Figure 15: Canadian Utility Proxy Group**

Company	Ticker	Sector
AltaGas Ltd.	ALA	Gas
Canadian Utilities Limited	CU	Electric/Gas
Emera, Inc.	EMA	Electric/Gas
Enbridge Inc.	ENB	Gas/Pipeline
Fortis, Inc.	FTS	Electric/Gas
Hydro One Ltd.	H	Electric

The second proxy group is comprised of U.S. gas distribution utility companies. To obtain companies of like-risk to Liberty, and also to ensure that candidate companies have sufficient data to perform the DCF and CAPM analyses, I used a number of screens to develop a group of companies that are primarily engaged in the provision of regulated gas distribution service. Starting with the 10 companies Value Line classifies as Gas Utilities, I further screened for companies that meet the following criteria:

1. Investment grade credit rating from S&P (i.e., BBB- or higher);
2. Consistently pay quarterly cash dividends;
3. Positive earnings growth rate projections from at least two sources;
4. At least 70 percent of operating income derived from regulated operations in the period from 2017-2019;
5. At least 90 percent of regulated operating income derived from gas distribution service in the period from 2017-2019; and
6. Not involved in a merger or other significant transformative transaction during the evaluation period.

The following four U.S. gas utility companies met the screening criteria:



**Figure 16: U.S. Gas Utility Proxy Group**

Company	Ticker
Northwest Natural Gas Company	NWN
ONE Gas, Inc.	OGS
Southwest Gas Corporation	SWX
Spire, Inc.	SR

The credit rating screen is important because the rating agencies focus on the utility's business risk profile (which includes an assessment of the regulatory environment in which the utility operates) and its financial risk profile. Companies with similar credit ratings are considered by the rating agency to have similar levels of business and financial risk as it pertains to the risk of default on company debt. It should be noted that risk of default is very different than earnings risk to shareholders, although the primary factors impacting those risks are generally the same. The credit rating screen has been accepted by regulatory agencies, including the Federal Energy Regulatory Commission ("FERC"), which found that "it is reasonable to use the proxy companies' corporate credit rating as a good measure of investment risk, since this rating considers both financial and business risk."<sup>39</sup>

The dividend payment screen assures that companies have a stable business and dividend history allowing the calculation of the dividend yield which anchors the DCF model. The availability of earnings growth projections from two or more analysts indicates sufficient coverage to provide a more balanced perspective on the company's business and earnings outlook than a single analyst could provide. The operating income screen assures that the majority of the corporate entity's income is derived from regulated utility operations, resulting in proxy companies better reflecting the lower risk profile of a regulated utility. To further focus the proxy group on companies with Liberty's risk profile, I additionally screen for over 90 percent of operating income from the regulated gas distribution business. The final screen for companies involved in mergers avoids the problem of market data that has been distorted by the inevitable price movements prior to and following a merger announcement.

<sup>39</sup> See, for example, *Potomac-Appalachian Transmission Highline, LLC*, 122 FERC ¶ 61,188 at p. 97 (2008).



- 1 The third proxy group is a combined North American proxy group, consisting of each of my  
2 Canadian utility companies and the four U.S. gas distribution utilities, as detailed in Figure 17.

3 **Figure 17: North American Utility Proxy Group**

Company	Ticker
AltaGas Ltd.	ALA
Canadian Utilities Limited	CU
Emera Inc.	EMA
Enbridge Inc.	ENB
Fortis Inc.	FTS
Hydro One Inc.	H
Northwest Natural Gas Company	NWN
ONE Gas, Inc.	OGS
Southwest Gas Corporation	SWX
Spire, Inc.	SR

4 **VI. THE COST OF EQUITY METHODS AND THEIR RELIABILITY**

5 **A. Methods for Determining ROE**

- 6 Regulated utilities primarily use common stock and debt to finance their investments in  
7 property, plant, and equipment and working capital.<sup>40</sup> The overall rate of return (“ROR”) for  
8 a regulated utility is based on its weighted average cost of capital, in which the cost rates of  
9 the individual sources of capital are weighted by their percentage of the total capitalization  
10 of the company. While the costs of debt and preferred stock can be directly observed, the

<sup>40</sup> Liberty is a wholly-owned subsidiary of Liberty Utilities (Canada) LP, which in turn is indirectly owned by Algonquin Power & Utilities Corp (“APUC”). Liberty’s equity is controlled through partnership units owned by the parent limited partnership. On February 14, 2020, Liberty Utilities (Canada) LP, the parent of Liberty, issued C\$200 million of senior unsecured debentures bearing interest at 3.315% with a maturity date of February 14, 2050. The debentures received a rating of BBB from DBRS. From these proceeds, Liberty Utilities (Canada) LP loaned C\$155 million to Liberty, replacing its higher cost credit facilities.



1 cost of equity is market-based and, therefore, must be estimated based on market  
2 information.

3 The required ROE is estimated using one or more analytical techniques to quantify investor  
4 expectations regarding required equity returns. Quantitative models produce a range of  
5 reasonable results from which the market-required ROE is selected. That selection must be  
6 based on a comprehensive review of relevant data and information and does not necessarily  
7 lend itself to a strict mathematical solution. As a general proposition, the key consideration  
8 in determining the cost of equity is to ensure that the methodologies employed reasonably  
9 reflect investors' views of the financial markets in general and the subject company (in the  
10 context of the proxy group) in particular. I have considered the results of the CAPM, DCF and  
11 Risk Premium methods in developing an ROE recommendation for Liberty.

## 12 **B. Importance of Using Multiple Approaches**

13 Analysts and academics understand that ROE models are tools to be used in the ROE  
14 estimation process, and that strict adherence to any single approach, or the specific results of  
15 any single approach, can lead to flawed conclusions. No model can exactly pinpoint the  
16 correct ROE. Rather, each model brings its own perspective and set of inputs that inform the  
17 estimate of ROE. That position is consistent with the *Hope* finding that "[u]nder the statutory  
18 standard of 'just and reasonable,' it is the result reached, not the method employed, which is  
19 controlling."<sup>41</sup>

20 Although each model brings a different perspective and adds depth to the analysis, each  
21 model also has its own set of inherent weaknesses and should not be relied upon individually  
22 without corroboration from other approaches. Changes to inputs can have significant  
23 impacts on the results of the various analyses. This view is widely held among financial  
24 practitioners, including me.

25 Regardless of which analyses are performed to estimate the investor's required return on  
26 equity, the analyst must apply judgment to assess the reasonableness of results and to  
27 determine the best weighting to apply to results under prevailing capital market conditions.  
28 The DCF, CAPM and Risk Premium methods are relatively simple models to estimate the cost

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<sup>41</sup> Hope, op. cit.



1 of capital, which by its nature is complex. No one model can reliably estimate the cost of  
2 capital that meets the criteria of the fair return standard. Only by applying multiple tests and  
3 employing reasonable judgment can we be assured of a reasonable estimate of the required  
4 return on equity.

5 In its 2010 decision, the Board recognized the merits of the Equity Risk Premium method  
6 (with a primary focus on the CAPM) which utilizes market-derived inputs to estimate the  
7 forward-looking ROE, while dismissing the results of the DCF model as “not appropriate for  
8 the circumstances of the present case.”<sup>42</sup> As discussed above, investors use multiple  
9 methodologies to estimate the cost of equity because each model has certain strengths and  
10 weaknesses, depending on the circumstances of the specific company as well as capital  
11 market conditions. The Constant Growth form of the DCF model was developed by Professor  
12 Myron Gordon in the 1960s for the purpose of estimating the cost of equity for companies in  
13 mature industries, such as public utilities, where it was reasonable to assume that those  
14 companies’ dividends and share prices would increase at a constant rate in perpetuity. Due  
15 to the small number of publicly traded utility companies in Canada, and due to limited  
16 coverage of certain companies by equity analysts, the data needed to perform the DCF model  
17 was not as readily available for a Canadian proxy group in 2010 as it is today. Therefore, it  
18 was necessary to introduce a U.S. proxy group of utility companies that were considered  
19 comparable to Enbridge Gas New Brunswick. However, there were concerns at that time that  
20 U.S. utility companies were higher risk than their Canadian counterparts, so Canadian utility  
21 regulators were reluctant to accept the use of U.S. data to set the return for Canadian utility  
22 companies without making an adjustment. Those concerns have been mitigated to a large  
23 degree in the past decade, as there is broader analyst coverage of Canadian utility companies,  
24 and as credit rating agencies and equity investors no longer perceive U.S. utility companies  
25 as higher risk compared to those in Canada.

26 The DCF model is widely used in regulatory proceedings in the U.S., although the DCF model  
27 is currently challenged by dividend yields of many utility companies being suppressed by the  
28 very low interest rate environment. The Constant Growth form of the DCF model can be used  
29 to estimate the cost of equity for companies in mature industries, such as regulated utilities,

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<sup>42</sup> New Brunswick Energy and Utilities Board, Cost of Capital for Enbridge Gas New Brunswick L.P., Decision issued November 30, 2010, at 4.



1 and the Multi-Stage DCF can be used when there is concern that short-term growth rates may  
2 not be sustainable over the longer-term. For all of these reasons, I find that it is reasonable  
3 and appropriate to consider the results of the CAPM, DCF and Risk Premium models to  
4 estimate the cost of equity for Liberty in this proceeding.

## 5 **C. Methods Used to Determine Cost of Equity**

### 6 **1. Capital Asset Pricing Model**

#### 7 **a. Approach**

8 The CAPM analysis (one form of equity risk premium approach) is a market test, based on a  
9 theoretically derived relationship between a security's required return and the systematic  
10 risk of that security. A risk premium, adjusted for the specific risk of a company or  
11 investment, is added to an underlying "risk free" rate (e.g., a government bond). The CAPM  
12 analysis is premised on the concept that investors will diversify away risk that diverges from  
13 the risk of the overall market. The amount of risk that remains after diversification is referred  
14 to as the non-diversifiable risk or "systematic risk." Beta is the risk factor applied to the  
15 market risk premium to account for the risk of the individual security that is not diversifiable,  
16 measuring the extent to which the security returns move in tandem with the market. This  
17 can further be explained by the individual stock's contribution to the total risk of the  
18 portfolio. As shown in Equation [1], to calculate the CAPM, one must incorporate estimates  
19 of the risk-free rate of return, the market risk premium and Beta. Since the CAPM is forward  
20 looking, it is appropriate to use forward-looking assumptions for the variables, when  
21 possible.





1                                    [1]       $Ke = rf + \beta(rm - rf)$

2      Where:

3                                     $Ke$  = the required ROE for a given security;

4                                     $\beta$  = Beta of an individual security;

5                                     $rf$  = the risk-free rate of return; and

6                                     $rm$  = the return for the market as a whole.

7      In this specification, the term  $(rm - rf)$  represents the market risk premium ("MRP").  
8      According to the theory underlying the CAPM, since unsystematic risk can be diversified  
9      away, investors should be concerned only with systematic or non-diversifiable risk. Non-  
10     diversifiable risk is measured by Beta, which is defined as:

11                                   [2]       $\beta = \frac{Covariance(r_e, r_m)}{Variance(r_m)}$

12     Where:

13                                    $r_e$  = the rate of return for the individual security or portfolio.

14     The variance of the market return, noted in Equation [2], is a measure of the covariance  
15     between the return on a specific security and the market, and reflects the extent to which the  
16     return on that security varies with a given change in the market return. Thus, Beta represents  
17     the risk of the security relative to the market.

18     The CAPM approach is not without its shortcomings, and judgment is required to determine  
19     its inputs. The approach is sensitive to the method of calculating the risk premium (e.g.,  
20     forward-looking or historical, geometric mean versus arithmetic mean, which security is  
21     selected for the risk-free interest rate, and whether adjustments to Beta are warranted.)

22     The theoretical premise of the model is also controversial, as it assumes that investors do in  
23     fact lower their risk by investing in diversified holdings. The model assumes all investors  
24     manage their portfolios in the most efficient manner in a well-functioning market and make



investment decisions based on the impact on the portfolio, and not on a specific security in isolation. This assumption requires us to believe that investors focus only on the risk of the portfolio and not on the risk of holding a single stock.<sup>43</sup> Additionally, Betas for low-risk stocks, such as utilities, must be adjusted or predicted returns will otherwise be understated. Said another way, low Beta securities earn a higher return than the CAPM would predict, and high Beta stocks earn less than predicted.<sup>44</sup> These problems are exacerbated in the current market environment, where risk free rates remain near all-time lows but expectations call for steady increases over time. Similarly, market equity returns typically move in an inverse relationship with underlying bond yields, rendering historic risk premia unreliable in the current low bond yield environment.

#### **b. Risk Free Rate**

My CAPM analysis relies on the 2022 through 2024 average Consensus Economics forecast of the Canadian 10-year government bond (shown previously in Figure 9 and repeated below in Figure 18) and adds the historical spread between 10- and 30-year government debt. This period has been chosen to be forward looking, as required for an equity return. I have chosen a three year forecast of the Canadian bond yield to be conservative, even though I could have selected a longer forecast period (and therefore a higher bond yield) given the fact that the Board has typically reviewed the ROE for Liberty (and its predecessors) approximately every ten years.

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<sup>43</sup> These statements are corroborated by the white paper, CAPM: an absurd model by Pablo Fernandez, Professor of Finance, IESE Business School, University of Navarra (October 6, 2014).

<sup>44</sup> Roger A. Morin, PhD, New Regulatory Finance, Public Utilities Reports, Inc. (2006) at 73-74, includes the following discussion: "Because of the observed regressive tendency, a company's raw unadjusted beta is not the appropriate measure of market risk to use. Current stock prices reflect expected risk, that is, expected beta, rather than historical risk or historical beta. Historical betas, whether raw or adjusted, are only surrogates for expected beta. The best of the two surrogates is adjusted beta;" and "[t]here is statistical justification for the use of adjusted betas as well. Statistically, betas are estimated with error. High-estimated betas will tend to have positive error (overestimated) and low-estimated betas will tend to have negative error (underestimated). Therefore, it is necessary to squash the estimated betas in toward 1.00. One way to accomplish this is by measuring the extent to which estimated betas tend to regress toward the mean over time. As a result of this beta drift, several commercial beta producers adjust their forecasted betas toward 1.00 in an effort to improve their forecasts. This adjustment which is commonly performed by investments services such as Value Line, Bloomberg, and Merrill Lynch, uses the formula:  $\beta_{\text{adjusted}} = \alpha(\beta_{\text{raw}} - 1.0)$ " Each firm gives 66% weight to the raw beta and approximately 34% to the market mean of 1.0, such that  $\beta_{\text{adjusted}} = 0.33 + 0.66 \beta_{\text{raw}}$ .



**Figure 18: Forecast for 10-Year Government Bond Yields**

**2022 - 2024<sup>45</sup>**

	2022	2023	2024	Average
<b>Canada</b>	1.60%	2.00%	2.40%	<b>2.00%</b>
<b>U.S.</b>	1.50%	1.80%	2.10%	<b>1.80%</b>

As illustrated in Figure 19, with an average spread between 10- and 30-year government bond yields of 57 basis points in Canada and 78 basis points for the U.S.,<sup>46</sup> the corresponding yields on 30-year government bonds over the period 2022-2024 are 2.57 percent for Canada and 2.58 percent for the U.S. As of February 26, 2021, the Canada and U.S. 30-year bond yields stood at 1.91 percent and 2.18 percent, respectively.

**Figure 19: Risk Free Rate<sup>47</sup>**

<b>30-Year Risk Free Yield</b>	<b>CDN\$</b>	<b>U.S.\$</b>
October 2020 Consensus Forecast Average 2022-2024 Forecasts 10-Year bond yield	2.00%	1.80%
Average Daily Spread between 10-year and 30-year government bonds (February 2021)	0.57%	0.78%
<b>Average</b>	<b>2.57%</b>	<b>2.58%</b>

Use of the 2022-2024 forecast, as opposed to the current risk-free rate, reflects the current market reality that near-term bond yields remain near all-time lows, and that investors factor higher interest rate levels into their forward-looking return expectations. Otherwise, the CAPM would not produce reliable results. The 30-year bond yield is appropriate to estimate

<sup>45</sup> Consensus Forecasts by Consensus Economics Inc., Survey Date October 12, 2020, at 3 and 28.

<sup>46</sup> Historical spreads were calculated using daily bond yields published on Bloomberg for the month of February 2021.

<sup>47</sup> Consensus Economics Inc., Survey Date October 12, 2020; and Bloomberg for daily bond yields. Differences are due to rounding.



the expected equity return for Liberty as it best matches the risk-free instrument with the lives of utility assets on which the return depends.

**c. Beta**

The calculation of beta depends on the time period and the frequency of intervals for calculation of returns. Longer time periods generally produce more statistically significant beta results.<sup>48</sup> I have used betas published by Value Line and Bloomberg in my analysis. According to Value Line, the reported historical beta for each company is based on five years of weekly stock returns and uses the New York Stock Exchange as the market index.<sup>49</sup> I have set the Bloomberg parameters to compute betas with five years of weekly stock returns on the S&P 500 or S&P/TSX Composite, whichever is applicable, as the market. Both Value Line and Bloomberg betas are adjusted to compensate for the tendency of beta to revert towards the market mean of 1.0 over time. The betas used in my analyses are summarized below.

**Figure 20: Beta**

	<b>Beta</b>
Canadian Proxy Group	0.87
U.S. Gas Proxy Group	0.85
North American Proxy Group	0.86

**d. Market Risk Premium**

As the CAPM formula indicates, the market risk premium is a function of interest rates. That is, it is the return on the broad stock market less the risk-free interest rate. Generally, as can be observed in U.S. and Canadian data, the risk premium falls when interest rates rise, and

<sup>48</sup> See, Roger A. Morin, PhD., New Regulatory Finance, Public Utility Reports, Inc., First Printing (June 2006) at 71, "To enhance statistical significance, beta should be calculated with return data going as far back as possible. But the company's risk may have changed if the historical period is too long. Weighting the data for this tendency is one possible remedy, but this procedure presupposes some knowledge of how risk changed over time. A frequent compromise is to use a 5-year period with either weekly or monthly returns."

<sup>49</sup> [http://www.valueline.com/sup\\_glossb.html](http://www.valueline.com/sup_glossb.html).



1 rises when interest rates fall. There is widely documented academic evidence of the inverse  
2 relationship between the market risk premium and interest rates.<sup>50</sup>

3 Estimates of the market equity risk premium generally fall into two camps: *ex-ante* (or  
4 forward looking) and *ex-post* (historical arithmetic average). An *ex-ante* approach may infer  
5 the market risk premium from DCF-derived or Bond Yield Risk Premium-derived ROE  
6 estimates by subtracting the risk-free rate and provides the current market view of stock  
7 returns in the current interest rate environment.

8 The *ex-post* market risk premium provides a longer view of the investment horizon and  
9 provides an estimate of how the market has performed over time. However, taken as an  
10 average, it is not sensitive to changes in interest rates and the prevailing economic  
11 environment. The *ex-post* market risk premium is typically calculated based on the  
12 arithmetic average of historical risk premia. Duff & Phelps calculates the historical risk  
13 premium for the U.S. from 1926-2020 as 7.25 percent, and the Canadian historical market  
14 risk premium from 1919-2020 as 5.54 percent (using Canadian dollars) and 5.90 percent  
15 (using U.S. dollars). The shortcoming of using a long-horizon historical equity risk premium  
16 is that it is slow to respond to the interest rate environment, so one would expect it to  
17 underestimate the risk premium in a low interest rate environment and overestimate the risk  
18 premium in a high interest rate environment. Said another way, the longer the averaging  
19 period, the less responsive the market risk premium will be to current market conditions.

20 My *ex-ante* risk premium is based on capital market conditions as of February 26, 2021, using  
21 forward projections of the return on the relevant market indices less the risk-free rate. For  
22 consistency, I have used a forecast of the 30-year bond yield in my calculation of the *ex-ante*  
23 risk premium. As shown in Exhibits JMC-5 and JMC-6, the forward return projections used in  
24 the computation of the forward-looking market risk premium were derived by calculating  
25 the implied market ROE on a market-capitalization-weighted basis for the individual  
26 companies in each broad market index (for the U.S., I have used the S&P 500 index; and for

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<sup>50</sup> See e.g., S. Keith Berry, Interest Rate Risk and Utility Risk Premia during 1982-93, Managerial and Decision Economics, Vol. 19, No. 2 (March 1998), in which the author used a methodology similar to the regression approach described below, including using allowed ROEs as the relevant data source, and came to similar conclusions regarding the inverse relationship between risk premia and interest rates. See also Robert S. Harris, Using Analysts' Growth Forecasts to Estimate Shareholders Required Rates of Return, Financial Management, Spring 1986, at 66.



Canada, I have used the S&P/TSX Composite index). I have used the DCF methodology to determine the expected market return. This is the same methodology employed by FERC for estimating the forward-looking market return. Using this method, I have subtracted the forecasted risk-free rate from the expected market returns to arrive at the forward-looking equity risk premia results of 9.16 percent and 10.52 percent, respectively, for Canada and the U.S. In other words, today's stock markets are indicating these projected returns over the risk-free rate in valuations of the companies in these broad market indices.

Because the U.S. and Canadian economies are integrated and because capital flows freely across the border, the risk premiums for each country are highly correlated.

Accordingly, it is appropriate in markets that are more similar than not, and where there is no good reason to expect a divergence in market risk premiums, to derive a single forward-looking estimate. I have averaged both the Canadian and U.S. equity risk premiums to derive a combined North American equity risk premium. As shown in Figure 21, the combined market risk premium is 9.84 percent (using forward-looking return data) and 8.12 percent (using an average of forward-looking and historical returns).

**Figure 21: Market Risk Premium Values**

	Canadian MRP	U.S. MRP	Average
Historical MRP	5.54%	7.25%	6.40%
Forward-looking MRP	9.16%	10.52%	9.84%
<b>Average</b>	<b>8.12%</b>		

**e. CAPM Results**

The results of the CAPM analysis, including flotation costs, are provided in Figure 22 and are shown in detail in Exhibits JMC-4.1 and JMC-4.2.



**Figure 22: CAPM Results (includes 50 bps flotation cost)**

	<b>Forward Looking MRP</b>	<b>Average of Historical and Forward Looking MRP</b>
<b>Canadian Proxy Group</b>	11.61%	10.11%
<b>U.S. Gas Proxy Group</b>	11.44%	9.96%
<b>North American Proxy Group</b>	11.54%	10.05%

While I have presented the CAPM results using both a forward-looking MRP and an average of the historical and forward-looking MRP, I prefer the use of the forward-looking MRP under current market conditions because it better reflects the inverse relationship between interest rates and the market equity risk premium. Further, it is consistent with the method employed by the FERC<sup>51</sup>, and takes into consideration the fact that government bond yields currently are well below the historical average level used to compute the historical MRP.

#### **f. Flotation Costs**

The adjustment for flotation costs compensates the equity holder for the costs associated with the sale of new issues of common equity. These costs include out-of-pocket expenditures for the preparation, filing, underwriting, and other costs of issuance of common equity including the costs of financial flexibility such that there is adequate cushion to raise equity in challenging capital market conditions. It is normal practice for Canadian regulators to allow an adjustment for flotation and financing flexibility. The Board has allowed such an adjustment to reflect the risks associated with equity issuance and financing flexibility. Consistent with this precedent, I have adjusted the CAPM and DCF results upwards by 50 basis points.

## **2. Discounted Cash Flow (DCF) Models**

### **a. Approach**

The DCF model evolves from the base premise that investors value a given investment according to the present value of its expected cash flows over time. It assumes that investors

<sup>51</sup> FERC Opinion No. 531-B, Order on Rehearing, issued March 3, 2015, at para 108-113.



will bid the lowest acceptable price for a share of the future earnings stream of a given company. A stock, identified by the investor as being high risk, will require a higher premium or higher return than would a lower risk investment. Investors will pay as much for a given share of stock as the next best alternative, that is, the next lowest risk-adjusted price. The required return is the equalizing factor that allows investors to compare investments of varying degrees of risk. The DCF model calculates the investors' required return by observing the price and dividend (earnings) stream of the stock. The model solves for the discount rate implied by the prevailing stock price by estimating future cash flows, as shown in Formula [3].

$$P = \frac{D_0(1+g)^1}{(1+r)^1} + \frac{D_1(1+g)^2}{(1+r)^2} + \dots + \frac{D_{n-1}(1+g)^n}{(1+r)^n} \quad [3]$$

where:

$P$  = the current stock price

$g$  = the dividend growth rate

$D_n$  = the dividend in year  $n$

$r$  = the cost of common equity

Assuming a constant growth rate in dividends, the model may be rearranged to compute the ROE, as shown in Formula [4]:

$$r = \frac{D}{P} + g \quad [4]$$

Stated otherwise, the cost of common equity is equal to the dividend yield, plus the dividend growth rate.

The constant growth DCF model requires the following assumptions: (1) a constant average growth rate for earnings and dividends; (2) a stable dividend payout ratio; (3) a constant price-to-earnings multiple; and (4) a discount rate greater than the expected growth rate. Fortunately, these restrictions are less of a constraint when modeling utilities with predictable earnings and dividends.





One of the drawbacks of the DCF model is that it can be highly sensitive to growth rate estimates and anomalies in current stock prices. There are alternative forms of the DCF model that allow for changes in the growth rate assumption if there is reason to believe that investors do not expect a steady growth rate in perpetuity. The multi-stage form of the model sets the subject company's stock price equal to the present value of future cash flows received over several (typically three) "stages". In all three stages, cash flows are defined as projected dividends, which increase at the growth rate specific to each stage. The multi-stage growth model assumes that current growth rates are not constant, and over the long term, the company's growth will revert in perpetuity to the growth rate of the broader economy (usually GDP growth). I have presented results from both a Constant Growth DCF model and a Multi-Stage DCF model.

#### **b. Growth Rate Estimates**

Estimating investors' expectations of future growth for the proxy companies is a significant factor in the DCF model. Earnings and dividend growth result from the investment opportunities and strategies that a company pursues. Since the growth rate used in the DCF model is the estimate of future growth, there is no precise estimation methodology. Investors and analysts are aware of historical growth rates for a company and consider historical growth rates in their estimation of future growth rates. In considering the appropriate growth rate to use in the DCF model, the most relied upon indicators of investors' expectations are analysts' estimates of future earnings growth.

Analysts' earnings growth estimates are typically relied upon as an indicator of dividend growth rates for several reasons. First, a company's dividend growth is derived from and can only be sustained by earnings growth. Second, to reduce the long-term growth rate to a single measure, as is the case in the constant growth DCF model, it is necessary to assume a constant payout ratio, and constant growth rates in earnings per share, dividends per share and book value per share. Third, earnings growth rates are less influenced by dividend decisions that companies may make in response to near-term changes in the business environment. Finally,



analysts' forecasts of earnings per share growth are widely available, whereas dividend and book value growth rate expectations are not generally estimated by analysts.<sup>52</sup>

Five-year earnings growth rates are publicly available from Zacks' Investment Research for U.S. companies. Yahoo! Finance, which is a public source for financial data from Thomson First Call, and SNL Financial, which is a subscription-based service, publish earnings growth rates for both Canadian and U.S. companies. All of these services provide consensus estimates that compile projections of earnings growth from several analysts. Value Line, which is a subscription-based publication, provides five-year projected earnings, dividend and book value growth rates based on the expectations of the individual analyst who has reviewed each company. Value Line covers all of the companies in the U.S proxy groups, and three of the six companies in the Canadian proxy group.

### **c. Reliability of Analysts' Growth Rates**

The relationship between various growth rates and stock valuation metrics has been the subject of academic research.<sup>53</sup> Many published articles specifically support the use of analysts' earnings growth projections in the DCF model in general, as well as for a method of calculating the expected market risk premium in particular. A 1986 article entitled "Using Analysts' Growth Forecasts to Estimate Shareholders Required Rates of Return" by Dr. Robert Harris, for example, demonstrated that financial analysts' earnings forecasts (referred to in the article as "FAF") in a Constant Growth DCF formula are an appropriate method of calculating the expected market risk premium.<sup>54</sup> In that regard, Dr. Harris noted that:

...a growing body of knowledge shows that analysts' earnings forecasts are indeed reflected in stock prices. Such studies typically employ a

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<sup>52</sup> Value Line Investment Survey is the only publication of which Concentric is aware that projects dividend and book value growth rates. Those estimates represent the Value Line analyst's perspective on dividend and book value growth. In contrast, many of the earnings growth rates that are publicly available are consensus estimates with contributions provided by several analysts.

<sup>53</sup> See, for example, Harris, Robert, Using Analysts' Growth Forecasts to Estimate Shareholder Required Rate of Return, Financial Management, Spring 1986.

<sup>54</sup> Robert S. Harris, Using Analysts' Growth Forecasts to Estimate Shareholder Required Rates of Return, Financial Management, 1986 at p. 66.



1 consensus measure of FAF calculated as a simple average of forecasts by  
2 individual analysts.<sup>55</sup>

3 Dr. Harris further noted that,

4 Given the demonstrated relationship of FAF to equity prices and the  
5 direct theoretical appeal of expectational data, it is no surprise that FAF  
6 have been used in conjunction with DCF models to estimate equity  
7 return requirements.<sup>56</sup>

8 In a subsequent article, Professors Carleton and Vander Weide performed a study to  
9 determine whether projected earnings growth rates are superior to historical measures of  
10 growth in the implementation of the DCF model.<sup>57</sup> Although the purpose of that study was to  
11 “investigate what growth expectation is embodied in the firm’s current stock price,”<sup>58</sup> the  
12 authors clearly indicate the importance of earnings projections in the context of the DCF  
13 model. Professors Carleton and Vander Weide concluded that:

14 ...our studies affirm the superiority of analysts’ forecasts over simple  
15 historical growth extrapolations in the stock price formation process.  
16 Indirectly, this finding lends support to the use of valuation models  
17 whose input includes expected growth rates.<sup>59</sup>

18 Similarly, in an article entitled *Estimating Shareholder Risk Premia Using Analysts Growth*  
19 *Forecasts*, Harris and Marston presented “estimates of shareholder required rates of return  
20 and risk premia which are derived using forward-looking analysts’ growth forecasts”.<sup>60</sup> In  
21 addition to other findings, Harris and Marston reported that,

22 ...in addition to fitting the theoretical requirement of being forward-  
23 looking, the utilization of analysts’ forecasts in estimating return  
24 requirements provides reasonable empirical results that can be useful  
25 in practical applications.<sup>61</sup>

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<sup>55</sup> *Ibid.*, at p. 59. Emphasis added. As noted in my Direct Testimony, Zacks and First Call, the sources of earnings growth projections that I use in addition to Value Line, are consensus forecasts.

<sup>56</sup> *Ibid.*, at p. 60.

<sup>57</sup> James H. Vander Weide, Willard T. Carleton, Investor growth expectations: Analysts vs. history, The Journal of Portfolio Management, Spring, 1988.

<sup>58</sup> *Ibid.*, at p. 78.

<sup>59</sup> *Ibid.*, at p. 82.

<sup>60</sup> Robert S. Harris, Felicia C. Marston, Estimating Shareholder Risk Premia Using Analysts’ Growth Forecasts, Financial Management, Summer 1992.

<sup>61</sup> *Ibid.*, at p. 63.



1 More recently (2004), the Carleton and Vander Weide study was updated to determine  
2 whether the finding that analysts' earnings growth forecasts are relevant in the stock  
3 valuation process still holds. The results of that updated study continued to demonstrate the  
4 importance of analysts' earnings forecasts, including the application of those forecasts to  
5 utility companies.<sup>62</sup> Similarly, Brigham, Shome and Vinson noted that "evidence in the  
6 current literature indicates that (1) analysts' forecasts are superior to forecasts based solely  
7 on time series data; and (2) investors do rely on analysts' forecasts."<sup>63</sup>

8 Optimism bias has been cited as a concern when using analyst growth rates. The concern is  
9 whether there is a tendency for analysts to forecast earnings growth rates that are higher  
10 than are actually achieved. If optimism bias were present in analysts' earnings forecasts, it  
11 could create an upward bias in the estimated cost of capital that results from the DCF  
12 approach. However, several regulatory changes have been implemented that were designed  
13 to provide fair disclosure and eliminate the possibility of analysts' bias.<sup>64</sup> By 2010, an article  
14 in the *Financial Analyst Journal* reported that analyst forecast bias had declined significantly

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<sup>62</sup> Advanced Research Center, Investor Growth Expectations, Summer, 2004.

<sup>63</sup> The Risk Premium Approach to Measuring a Utility's Cost of Equity, *Financial Management*, Spring 1985.

<sup>64</sup> On August 15, 2000, the U.S. Securities and Exchange Commission ("SEC") adopted Regulation FD to address the selective disclosure of information by publicly traded companies and other issuers. Regulation FD provides that when an issuer discloses material non-public information to certain individuals or entities (generally, securities market professionals such as stock analysts or holders of the issuer's securities who may well trade on the basis of the information), the issuer must make public disclosure of that information. In this way, the new rule aims to promote full and fair disclosure. Also, in 2002 the SEC, the New York Stock Exchange ("NYSE"), the New York Attorney General ("NYAG"), and other state regulators introduced guidelines regarding the interaction between analysts and investment banks that has become known as the Global Settlement. The Global Settlement outlines several structural reforms that limit the interaction between analysts and investment banks, thus removing any incentive for analysts to produce upwardly biased growth forecasts. And, in Canada, regulators took a similar series of parallel actions to improve research independence and ensure the professional practice of Canadian securities analysts based on the report of the Canadian Securities Industry Committee on Analyst Standards, as well as the rules introduced during the Global Settlement in the U.S. The initiative was referred to as "Policy 11" with the purpose of "maintaining the integrity of the marketplace, by establishing requirements that reduce the potential for conflicts of interest and allow for the highest standards of ethical behavior." The initial draft of Policy 11 was issued on April 12, 2001 and became effective on February 1, 2004. Policy 11 required more disclosures from analysts and independence of research departments from investment banking departments with the issuance of 20 requirements and 9 guidelines that must be complied with where practicable.



1 or disappeared entirely as a result of regulatory changes implemented in the previous  
2 decade:

3 Introduced in 2002, the Global Settlement and related regulations had  
4 an even bigger impact than Reg FD on analyst behavior. After the Global  
5 Settlement, the mean forecast bias declined significantly, whereas the  
6 median forecast bias essentially disappeared. Although disentangling  
7 the impact of the Global Settlement from that of related rules and  
8 regulations aimed at mitigating analysts' conflicts of interest is  
9 impossible, forecast bias clearly declined around the time the Global  
10 Settlement was announced. These results suggest that the recent efforts  
11 of regulators have helped neutralize analysts' conflicts of interest.<sup>65</sup>

12 In addition, I also note that FERC in setting returns for electric transmission companies relies  
13 on short-term analyst growth rates in the DCF model, although it weighs the analyst growth  
14 rate by 80 percent and GDP (as an alternative measure of a long-term growth rate) by 20  
15 percent. I also use GDP growth as a long-term growth rate in my Multi-State DCF model.

16 **d. Dividend Yield**

17 As shown in equation [5] below, the dividend yield component of the DCF model is calculated  
18 as follows:

$$[5] \quad Y = \frac{D_0(1+0.5g)}{P_0}$$

19

20 One half year's growth rate is applied to the annual dividend rate to account for increases in  
21 quarterly dividends at different times throughout the year. It is reasonable to assume that  
22 dividend increases will be evenly distributed over calendar quarters. This adjustment  
23 ensures that the expected dividend yield is, on average, representative of the coming twelve-  
24 month period, and does not overstate the aggregated dividends to be paid during that time.

25 For the DCF analysis, the dividend yields were calculated for each company in the Canadian  
26 and U.S. proxy groups by dividing the current annualized dividend by the average of the stock  
27 prices for each company. The price component of the calculation is based on the proxy

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<sup>65</sup> Armen Hovakimian and Ekkachai Saenyasiri, *Conflicts of Interest and Analyst Behavior: Evidence from Recent Changes in Regulation*, Financial Analysts Journal, Volume 66, Number 4, July/August 2010, at p. 105.



companies' current annualized dividend and average closing prices for the 90-trading days ended February 26, 2021. Those dividend yields are multiplied by the DCF model factor  $(1 + 0.5g)$  to reflect expected future dividend increases, to arrive at the dividend yield component of the model.

**e. Constant Growth Model**

The constant growth DCF analysis for the Canadian and U.S. proxy groups is based on analysts' forecasts of earnings growth. This analysis recognizes that the consensus of analysts' EPS forecasts reflects the most important component of investors' growth rate expectations, and it assumes that the analysts' forecasts incorporate all information required to estimate a long-term expected growth rate for a company. As discussed previously, financial research and empirical literature indicate that analyst EPS forecasts are the best available estimates for future growth rates. Available earnings growth estimates were used from SNL Financial, Value Line, Zacks, and Yahoo! Finance for each company in the Canadian and U.S. proxy group. Those growth rates are shown on Exhibit JMC-7.

**f. Multi-Stage Model**

In order to address some of the limiting assumptions underlying the constant growth form of the DCF model, I also considered the results of a multi-period (three-stage) DCF model. The multi-stage DCF model tempers the assumption of constant growth in perpetuity in the constant growth DCF model with a three-stage approach: near-term, transitional, and long-term growth.

The multi-stage model transitions from near-term growth, (i.e., the average of Value Line, Zacks, SNL Financial, and Yahoo! Finance forecasts used in the constant growth model) for the first stage (years 1-5) of the analysis, to the long-term forecast of GDP growth for the third stage of the analysis (years 11 and beyond). The second, or transitional, stage connects the near-term growth with the long-term growth for the transitional period by changing the growth rate each year on a pro rata basis. In the terminal stage, the dividend cash flow then grows at the same rate as GDP into perpetuity (or a total of 200 years in the model). The return on equity is the internal rate of return based on the stock price today and this stream of dividend payments.



1 I have applied the multi-stage DCF model to my three proxy groups. The assumptions used  
2 with respect to the various model inputs are described in Figure 23.

3 **Figure 23: Multi-stage DCF Model Assumptions**

<i>Model Input</i>		Stage 1	Stage 2	Stage 3
<i>Years</i>	Start	1 – 5	6 – 10	>11
<i>Stock Price and Dividend Yields</i>	90-day average			
<i>Earnings Growth</i>		EPS growth as average of Value Line, First Call, SNL and Zacks projected growth rates	Transition to Long-term GDP growth on arithmetic average basis	Long-term GDP Growth

4

5 The nominal GDP growth rates for all proxy groups (used in Stage 3) were developed using  
6 available data for each country from Consensus Economics, Inc. for the forecast period  
7 furthest in the future (2026-2030). These forecasts reflect real (constant dollar) growth rates  
8 and estimates for inflation. The inflation estimate was applied to the estimate of real GDP  
9 growth to develop the nominal (including inflation) GDP growth rate.<sup>66</sup> The estimates of  
10 nominal GDP growth that were utilized are summarized in Figure 24:

11 **Figure 24: Estimates of Nominal GDP Growth**

Source	Canada	U.S.
Real GDP Growth	1.80%	2.00%
Inflation	2.00%	2.10%
<b>Nominal GDP Growth</b>	<b>3.84%</b>	<b>4.14%</b>

12

13 The Multi-Stage DCF results are shown in Exhibit JMC-8.

14 **g. DCF Results**

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<sup>66</sup> Consensus Forecasts, for 2026-2030, October 12, 2020, at 3 and 28, Calculated as: [Real GDP x (1+CPI)+CPI]



As shown in Figure 25, the DCF analyses for both methods indicate an average cost of common equity of 11.11 percent for the Canadian proxy group, 9.28 percent for the U.S. gas proxy group, and 10.38 percent for the North American proxy group, including a 50 basis point adjustment for flotation costs.

**Figure 25: Mean DCF Results (including 50 bps flotation costs)**

Proxy Group	Constant Growth	Multi-Stage	Average
Canadian Proxy Group	11.47%	10.74%	<b>11.11%</b>
U.S. Gas Proxy Group	9.58%	8.97%	<b>9.28%</b>
North American Proxy Group	10.72%	10.04%	<b>10.38%</b>
<b>Average</b>	<b>10.59%</b>	<b>9.92%</b>	<b>10.26%</b>

### **3. Risk Premium Model**

In general terms, the Risk Premium approach recognizes that equity is riskier than debt because equity investors bear the residual risk associated with ownership. Equity investors, therefore, require a greater return (i.e., a premium) than would a bondholder. The Risk Premium approach estimates the cost of equity as the sum of the Equity Risk Premium and the yield on a particular class of bonds.

$$ROE = RP + Y \quad [5]$$

Where:

RP = Risk Premium (difference between allowed ROE and the 30-Year Treasury Yield)

and

Y = Applicable bond yield.

Since the equity risk premium is not directly observable, it is typically estimated using a variety of approaches, some of which incorporate *ex-ante*, or forward-looking, estimates of the cost of equity and others that consider historical, or *ex-post*, estimates. For my Risk Premium analysis, I have relied on authorized returns from a large sample of U.S. gas distribution companies. It is necessary to conduct the Risk Premium analysis based on





1 authorized returns for U.S. gas distribution companies because there are not a sufficient  
2 number of Canadian ROE decisions to develop a statistically-meaningful regression analysis.

3 To estimate the relationship between risk premia and interest rates, I conducted a regression  
4 analysis using the following equation:

5 
$$RP = a + (b \times Y) [6]$$

6 where:

7  $RP$  = Risk Premium (difference between allowed ROEs and the 30-Year Treasury  
8 Yield);

9  $a$  = Intercept term;

10  $b$  = Slope term; and

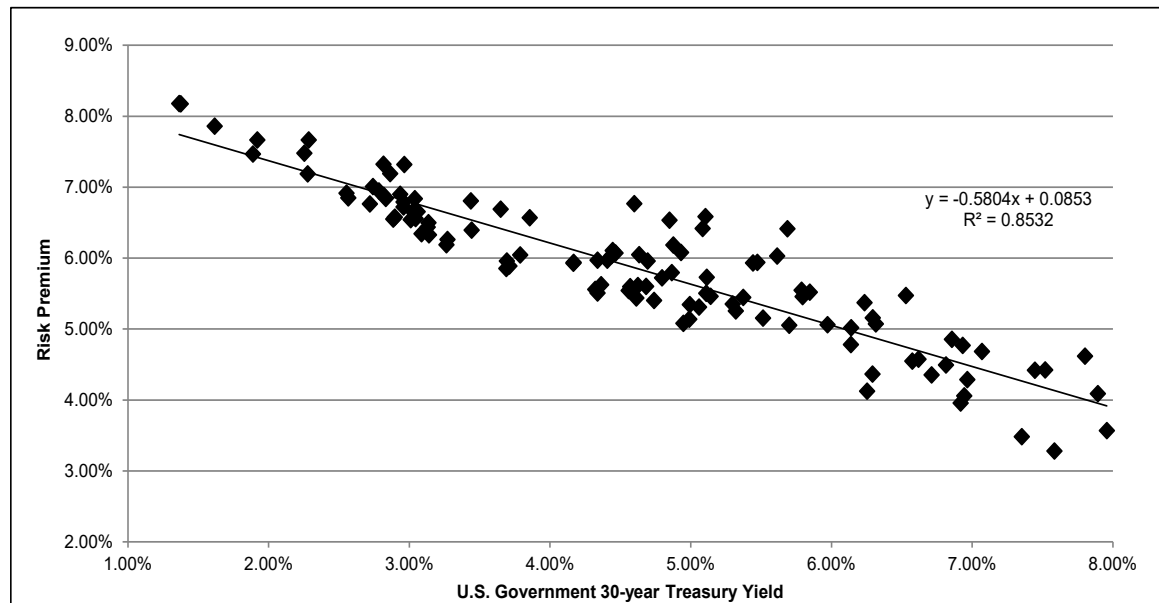
11  $Y$  = 30-Year Treasury Yield.

12 Data regarding allowed ROEs were derived from 677 gas distribution company rate cases in  
13 the U.S. from January 1992 through February 26, 2021, as reported by Regulatory Research  
14 Associates.



1

**Figure 26: Risk Premium Results**



2

3

4 As illustrated by Figure 26, the risk premium varies with the level of bond yield, and generally  
5 increases as the bond yields decrease, and vice versa. In order to apply this relationship to  
6 current and expected bond yields, I consider three estimates of the 30-year Treasury yield,  
7 including the current 30-day average, a near-term Blue Chip consensus forecast for Q2 2021  
8 – Q2 2022, and a Blue Chip consensus forecast for 2022–2026. I find this 5-year result to be  
9 most applicable for the following reasons: (1) investors are expecting increases in  
10 government bond yields; and (2) investors typically have a multi-year view of their required  
11 returns on equity. Based on the regression coefficients in Exhibit JMC-9, which allow for the  
12 estimation of the risk premium at varying bond yields, the results of my Risk Premium  
13 analysis are shown in Figure 27.



**Figure 27: Risk Premium Results Using 30-Year Treasury Yield**

	Using 30-Day Average Yield on 30-Year Treasury Bond	Using Q2 2021–Q2 2022 Forecast for Yield on 30-Year Treasury Bond <sup>67</sup>	Using 2022- 2026 Forecast for Yield 30- Year Treasury Bond <sup>68</sup>
Yield	1.97%	2.28%	2.80%
Risk Premium	7.39%	7.21%	6.91%
Resulting ROE	9.36%	9.49%	9.71%

## **VII. BUSINESS AND FINANCIAL RISK ASSESSMENT**

### **A. Overview**

In this section, I examine Liberty's risk profile in 2020 as compared to 2010, when the Board last established the cost of capital for Liberty, and relative to the companies in my Canadian and U.S. peer groups. In the 2010 decision, the Board determined that a risk adjustment of 275 basis points to the return for a benchmark utility was appropriate to compensate investors for the higher business and financial risk of EGNB. When added to the return for a benchmark utility of 8.13 percent, and including 50 bps for flotation costs, this brought the authorized return for EGNB to 10.9 percent, which represented a 210 basis point reduction in the authorized return of 13.0 percent that was established by the Board in 2000.

The risk for any company, including utilities, has two principal sources: business risk and financial risk. Business risk is the risk inherent in the company's operations, irrespective of how the company is financed. Financial risk exists to the extent a company incurs fixed obligations in financing its operations. These risks also have a time dimension. For a utility, short-term risks are those that will reverse or resolve themselves within a year or two, either through regulatory relief or the normal ebb and flow of earnings. Examples include earnings

<sup>67</sup> Blue Chip Financial Forecasts, Vol. 40, No. 3, March 1, 2021, at 2

<sup>68</sup> Blue Chip Financial Forecasts, Vol. 39, No. 12, December 1, 2020, at 14.



1 loss due to weather or losses that typically receive deferral account treatment or that would  
2 otherwise be included in a subsequent years' cost of service. Long-term risks represent an  
3 actual shift in the business risk profile of the company for which there is no foreseeable  
4 mitigation. Examples of long-term risks include: a sustained depressed business  
5 environment or changes in regulatory or environmental policies that impact the profitability  
6 of a company's operations.

7 Both short-term and long-term risks impact the utility business risk profile and are  
8 considered by investors. Investors will demand greater compensation for what they perceive  
9 to be higher risk. That risk can generally be boiled down to whether the investor will actually  
10 be able to recover their investment plus earn the allowed return on invested capital, and  
11 whether they have been afforded a reasonable opportunity to earn the allowed return by the  
12 regulator.

13 I begin my business risk analysis with a discussion of the local economic conditions and the  
14 outlook for New Brunswick.

## 15 **B. New Brunswick Economic Conditions and Outlook**

16 According to the Conference Board of Canada, New Brunswick's GDP is expected to decline  
17 by 5.2 percent in 2020, which is less than the projected decline of 6.6 percent for all of Canada.  
18 The Conference Board attributes this milder recession in New Brunswick to the fact that the  
19 province has not been affected as much by the COVID-19 pandemic as many other provinces.  
20 In addition, public sector workers account for a higher share of overall workers in New  
21 Brunswick, which has tended to mitigate the effect of previous economic downturns in the  
22 province. In October 2020, employment in the province was 2.3 percent lower than February  
23 2020 levels as compared to a 3.3 percent decline in employment for Canada overall.  
24 Nevertheless, the economy in New Brunswick has been negatively affected by stricter  
25 lockdown measures in Europe and the remainder of Canada, which are key markets for New  
26 Brunswick's exports. The Conference Board expects the manufacturing industry in New  
27 Brunswick to contract by 7.5 percent in 2020 due mostly to a big drop in activity at the Irving  
28 Oil refinery in Saint John. Home prices in New Brunswick have increased by a healthy margin,  
29 driven by a growing population base and very low mortgage rates. However, new housing



1 starts are expected to cool in the fourth quarter and taper off over the medium term as net  
2 provincial migration returns to negative territory.<sup>69</sup>

3 TD Economics reports that New Brunswick's success in containing the pandemic has set the  
4 province up for a relatively shallow economic hit in 2020. With the exception of some of its  
5 Atlantic Canada peers, the province has maintained the lowest per capita caseload in all of  
6 North America. Notwithstanding this relative outperformance, however, the second wave of  
7 the virus has not left the province unscathed. TD Economics notes that the second wave  
8 spelled the end of the "Atlantic Bubble," which had mitigated the economic impact of COVID-  
9 19 on the provincial economy, including many travel and hospitality industries in Atlantic  
10 Canada. TD Economics is forecasting that the unemployment rate is expected to improve  
11 from 9.8 percent in 2020 to 8.6 percent in 2021, and that nominal GDP is expected to increase  
12 by 5.3 percent in 2021 as compared to a 2.2 percent decline in 2020. They caution, however,  
13 that executing on the commitments at the federal and provincial levels to ramp up the pace  
14 of international immigration will be important to counter New Brunswick's aging  
15 demographics and support its economy.<sup>70</sup>

16 In summary, while economic conditions in New Brunswick have been relatively stronger  
17 during the pandemic than many provinces in Canada, there are longer term structural  
18 challenges associated with an aging population and declining workforce.

### 19 **C. Small Size**

20 Liberty is substantially smaller than the vast majority of other gas distribution utilities in  
21 Canada and the U.S. The small size of Liberty relative to the proxy group companies is an  
22 important risk factor in determining Liberty's cost of equity. Academic literature recognizes  
23 that smaller companies tend to be rewarded with higher total returns than larger companies,  
24 even after the relative illiquidity of smaller company stock is taken into account. As  
25 previously noted, Liberty has approximately 12,000 gas distribution customers. Figure 28

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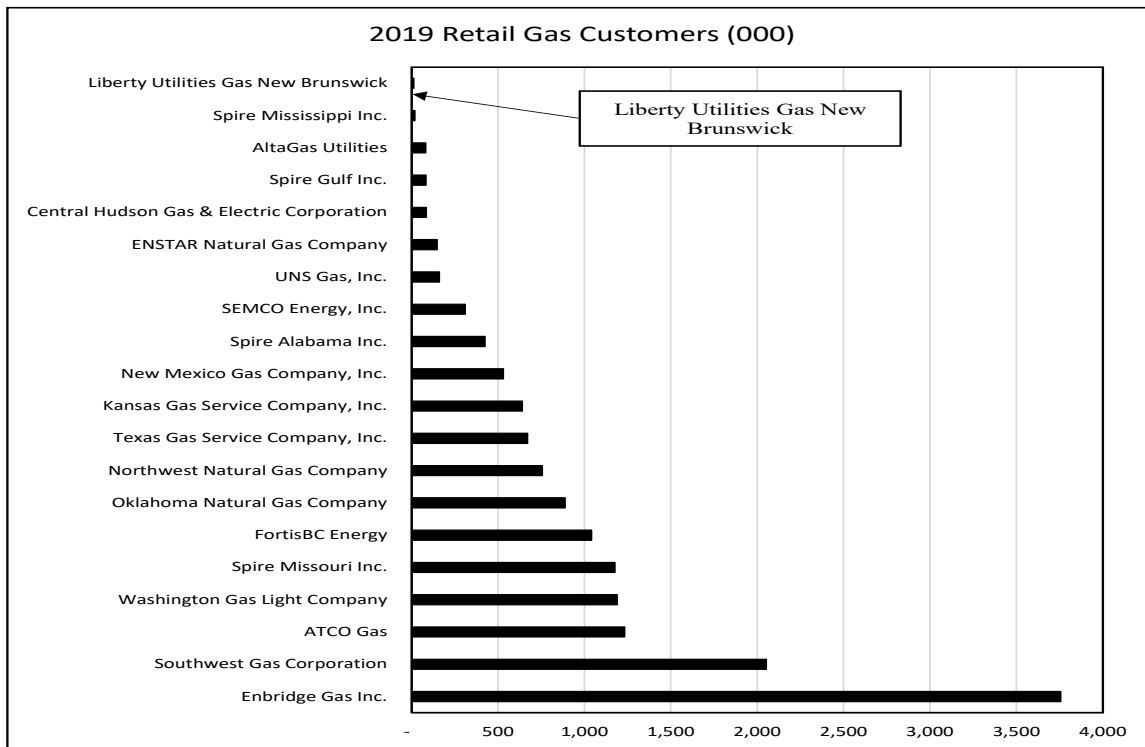
<sup>69</sup> The Conference Board of Canada, Provincial Outlook, "Tough Times Ahead," November 25, 2020, at 11-12.

<sup>70</sup> TD Economics, "Provincial Economic Forecast, It's Always Darkest Before the Dawn," December 15, 2020, at 8.



1 compares the number of customers for Liberty to the total gas distribution customers for the  
2 North American proxy group companies in 2019.

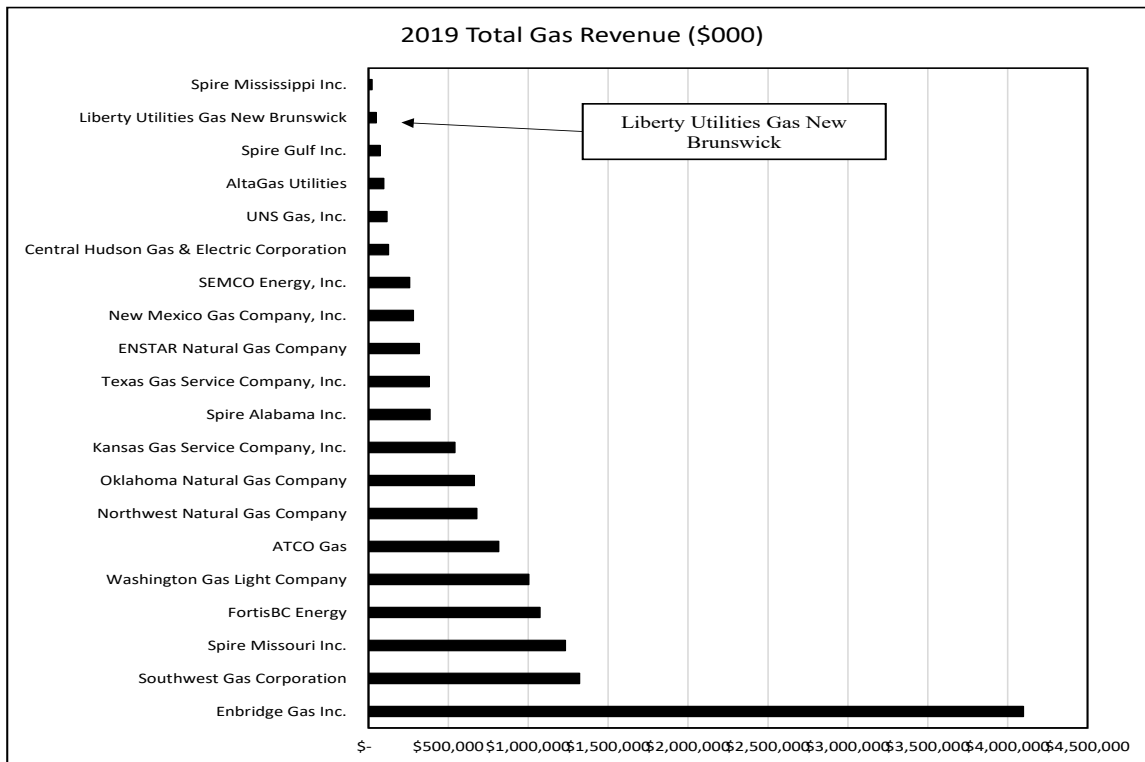
3 **Figure 28: Number of Gas Customers for Liberty and Proxy Group**



5 Figure 29 compares Liberty's revenues to the gas distribution revenues of the operating  
6 subsidiaries of the North American proxy group companies. As shown in that Figure,  
7 Liberty's 2019 revenues were US \$39.5 million, compared with the proxy group median  
8 revenues of approximately US \$384 million.



1 **Figure 29: 2019 Gas Distribution Revenues of Liberty vs. Proxy Group**



2  
3  
4 Liberty's small size relative to the proxy group companies means that Liberty's earnings and  
5 cash flows may be disproportionately affected by events such as the loss of its larger  
6 customers, weaker than expected demand for gas distribution service due to general  
7 macroeconomic conditions in the service territory, or fuel price volatility. Liberty's risk  
8 profile is highly unusual given New Brunswick's Single End Use Franchise bypass customers,  
9 which consume as much as 80 percent of the natural gas used in New Brunswick, yet pay  
10 minimal revenue to Liberty. I am not aware of any other North American gas utility with a  
11 similar profile. So smaller changes in volume for Liberty's customers have a magnified impact  
12 on its revenues and earnings compared to utilities serving larger loads and a broader  
13 customer base. To my knowledge, no other company in the Canadian or U.S. proxy groups  
14 faces a similar situation. Similarly, capital expenditures for non-revenue producing  
15 investments such as system maintenance and replacements will put proportionately greater  
16 pressure on customer costs. Taken together, these risks affect the return required by  
17 investors for smaller companies. Liberty is relatively small as compared to the proxy group  
18 companies used for the ROE analysis. This small size magnifies the effect of other business  
19 and financial risks on Liberty.



Credit rating agencies consider small size as a distinguishing risk factor. Moody's, for example, considers the size and diversity of utility operations to be a distinguishing factor that makes some utilities riskier than others. In discussing its rating methodology for regulated electric and gas utilities, Moody's states:

We also consider the diversity of utility operations (e.g., regulated electric, gas, water, steam) when there are material operations in more than one area. Economic diversity is typically a function of the population, size and breadth of the territory and the businesses that drive its GDP and employment. For the size of the territory, we typically consider the number of customers and the volumes of generation and/or throughput. For breadth, we consider the number of sizeable metropolitan areas served, the economic diversity and vitality in those metropolitan areas, and any concentration in a particular area or industry.<sup>71</sup>

Liberty's service territory is characterized by the small size and lack of geographic and economic diversity that Moody's describes as an increased risk factor for regulated utilities. In particular, Liberty's customers are spread across a large geographic area, meaning that Liberty's ratio of customers per kilometer of pipe is lower than distribution companies that operate in more densely populated areas such as Montreal, Toronto, or Vancouver.

Further, Morningstar/DBRS has commented specifically on the risk associated with the small size of Liberty as follows:

LUNB has approximately 12,000 customers as at the end of 2020, and the population in the Company's service areas has not experienced any meaningful increase over the past 10 years. This unusually small customer base makes it very difficult for LUNB to recover capex (if a substantial amount is required) over a reasonable period of time.<sup>72</sup>

My conclusion is that Liberty is significantly smaller than the proxy group companies and that investors would require a substantial risk premium in relationship to the larger and more diversified proxy group companies.

<sup>71</sup> Moody's Investors Service, "Rating Methodology: Regulated Electric and Gas Utilities," December 23, 2013, at 19.

<sup>72</sup> Morningstar/DBRS, Liberty Utilities (Canada) LP, March 17, 2021, at 4.





1       **D. Business Risks for Liberty**

2       The Board's 2010 decision considered five areas of business risk for Liberty, including Market  
3       risk; Competitive risk; Supply risk; Regulatory risk; and Deferral Account risk. I have  
4       considered those same five fundamental risk factors in my risk assessment, both in terms of  
5       how Liberty's risk has changed from 2010 to 2020 and how Liberty's risk compares to that  
6       of the proxy group companies in Canada and the U.S. The first three risk factors are addressed  
7       in more detail in Liberty's evidence, on which I rely in drawing the following conclusions:

8           1) Market risk: Liberty has greater market risk than in 2010. Some factors have not  
9           changed such as the relatively low population and low urban saturation, low  
10          industrial load and high electric space heating saturation. Market risks that have  
11          worsened include the proliferation of new technologies such as heat pumps as  
12          well as the political trend and landscape promoting electrification, carbon fuel  
13          bans and climate action initiatives. Evidencing these trends, Liberty has not  
14          added as many customers as forecast.

15          2) Competitive risk: Liberty has greater competitive risk than in 2010. The relative  
16          differential between natural gas and electricity prices has been lower than  
17          anticipated, and continues to be lower than most other provinces. The  
18          competitive advantage for electricity has also been significantly altered since  
19          2010 due to the popularity and efficiencies of heat pump appliances. Additionally,  
20          since 2015 the propane environment created by additional supply and storage  
21          facilities in Atlantic Canada has resulted in a market shift from a marginalized  
22          energy option to a relevant option and competitor due to the significant changes  
23          in pricing.

24          3) Supply risk: Liberty's supply risk has moderated to some degree because natural  
25          gas supply is being provided from more stable markets resulting in more stable  
26          pricing and lower overall prices than in 2010.

27               **1. Regulatory risk**

28       Liberty files an annual rate application with the Board that includes most costs and expenses  
29       with the exception of the cost of capital, which has not been reviewed since 2010. Liberty has



two significant deferral accounts, which total \$210 million, the cost of which is being borne by a small customer base. These two deferral accounts add about \$12 million per year to Liberty's revenue requirement. The balance in the Development O&M account is \$78 million, which is being amortized over 40 years, while the balance in the Regulatory deferral account is \$96 million, amortized over 26 years, plus a variable portion of approximately \$36.1 million, which is reduced through an over-earnings sharing mechanism. The Development O&M account is included in rate base and earns the weighted average cost of capital. The Regulatory deferral account is not in rate base and does not earn a return; further, recovery of the variable portion of \$36.1 million remains at risk.

In addition, Liberty does not have a revenue decoupling mechanism or a weather normalization clause. Therefore, Liberty's revenues and cash flow tend to fluctuate from month to month due to the effects of abnormal weather and/or weak economic conditions on the demand for natural gas.

My conclusion is that Liberty's regulatory risk has not changed materially since 2010, but as discussed in the following section, Liberty has higher regulatory risk than many companies in the North American proxy group due to the absence of protection against volumetric risk, which is common for gas distributors, and due to the limited number of regulatory mechanisms that are in place to mitigate certain other risks.

## **2. Deferral account risk and political interference**

This was the most important risk factor for Liberty in 2010. In 2012, the government unilaterally changed the franchise agreement with what was then EGNB. EGNB ultimately reached a settlement agreement in 2016 that reduced the balance in the deferral account from \$278 million to \$144.5 million, with EGNB writing off the difference. Since that time, Liberty has had more stability and certainty with regard to the deferral account. The 2016 settlement agreement with the government also included a 25-year extension of the franchise agreement starting in 2019. Liberty believes that the risk of government interference has been reduced; however, that can obviously change at any time, as was shown in 2012. Political risk remains a concern for the investment community, as Morningstar/DBRS noted in a recent report on Liberty Utilities (Canada): "However, potential government



1 intervention in the future remains a concern because the Province does not yet have a long  
2 history of regulatory stability.”<sup>73</sup> DBRS further elaborated on this concern as follows:

3           Although the regulatory framework in NB improved significantly in  
4           2016 compared with prior years and has been stable since, DBRS  
5           Morningstar is of the opinion that there is no assurance that the  
6           Government of New Brunswick will not intervene again in the future  
7           with adverse legislation that could have a material negative impact on  
8           the Company’s credit risk profile.<sup>74</sup>

9 My conclusion is that Liberty has lower absolute deferral account risk than in 2010 because  
10 the issues around the large deferral account balance were settled in 2016. In addition, the  
11 franchise agreement for Liberty has been renewed through 2044. While political risk is  
12 currently dormant, history suggests that the provincial government is willing to step in and  
13 change agreements that govern the operations of Liberty. Investors are aware of this history  
14 and the potential for political risk and would be expected to factor that into consideration in  
15 evaluating Liberty’s risk profile and setting their return requirements. It is also the case that  
16 no other company in the proxy group has the financial burden of the two large deferral  
17 accounts that reflect early stage growing pains, indicating that Liberty has greater relative  
18 risk.

#### 19 **E. Liberty No Longer in Development Period**

20 In 2000 the Board approved the concept of the development period, which represented a  
21 startup period for a new utility during which time it is not expected to operate in a mature  
22 manner while its infrastructure and customer base are being developed. At the time, all rates  
23 were determined on a market-based method, which generally meant that revenues were  
24 below the utility’s costs. Revenue shortfalls were added to a regulatory deferral account. By  
25 contrast, for a mature utility, rates are usually set on a cost of service basis.

26 In the 2016 decision, the Board determined that from a “practical perspective” EGNB was no  
27 longer in the development period because the utility had modified its business strategy from  
28 significant expansion of plant, customers and load, to a strategy with minimal investment and  
29 cash generation. The Board indicated that the utility’s efforts are now focused on avoiding

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<sup>73</sup> Morningstar/DBRS, Liberty Utilities (Canada) LP, March 17, 2021, at 2.

<sup>74</sup> Ibid, at 4.



1 the loss of existing customers to new competitive threats, rather than developing new  
2 customers. However, despite finding that the development period was over from a “practical  
3 perspective,” the Board agreed with the experts that the potential impact of regulation  
4 created the potential for the inability of the Board to establish rates that allow Liberty the  
5 recovery of its full approved revenue requirement. As a result, the Board determined that  
6 Liberty remained in the development period until the end of the general franchise agreement,  
7 which expired in 2019. Prior to the expiration of the development period, Liberty moved  
8 from market-based pricing to cost-based pricing (although cross-customer subsidies  
9 remain). Under development period pricing, Liberty had the possibility of recouping under-  
10 recovered revenues through the deferral mechanism. Under cost-based rates, Liberty has no  
11 such recourse. It therefore has less flexibility to compete against alternative fuels. On  
12 balance, this places the company at greater risk as it has one less tool to accelerate growth in  
13 its customer base and scale up its operations.

#### 14 **F. Conclusions on Changes in Liberty’s Business Risk Profile**

15 In summary, Liberty’s gas supply risk has moderated since 2010 as lower and more stable  
16 natural gas prices have offset the risk of procuring natural gas from Ontario and Western  
17 Canada. Liberty’s market risk and competitive risk have increased since 2010, as reflected  
18 by the smaller than anticipated customer additions, due to the fact that the differential  
19 between natural gas and electricity prices has made fuel conversion less attractive to  
20 customers, especially those with electric heating. From an investor’s perspective, Liberty’s  
21 regulatory risk has increased since 2010 with the government action in 2012 to amend the  
22 franchise agreement and partial write-off of Enbridge’s initial investment in the system. I am  
23 not aware of any other gas distribution company in North America that has experienced a  
24 write-down of this relative magnitude. Since then, the regulatory environment in New  
25 Brunswick has generally been constructive and supportive of Liberty’s credit profile.  
26 However, Liberty’s small size continues to make it significantly riskier than other larger  
27 investor-owned gas utilities in Canada and the U.S. Even though it was determined in 2016  
28 that Liberty is no longer in the development period, Liberty has not yet achieved the  
29 increased scale that was expected a decade ago and customer growth has stagnated in recent  
30 years. The risk associated with political interference remains an ongoing risk for investors.



1 These risks distinguish Liberty from other investor-owned gas utilities operating in most  
2 other North American regulatory jurisdictions.

### 3 **G. Relative Risks of Liberty to Other Gas LDCs in Canada**

4 In this section, I compare the risk profile of Liberty to other investor-owned gas distribution  
5 companies in Canada. In particular, I focus on the relative size of the companies as measured  
6 by number of customers, throughput, and revenues. I also highlight any important factors  
7 that affect the regulatory risk of these companies, such as mechanisms that protect against  
8 volumetric risk or regulatory lag.

9 I begin, in Figure 30, with a comparison of authorized ROEs for other Canadian investor-  
10 owned gas distribution companies.

11 **Figure 30: Comparison of Authorized Equity Returns**

Operating Utility	Equity Return
Liberty Gas New Brunswick (existing)	10.90%
Liberty Gas New Brunswick (proposed)	11.50%
AltaGas Utilities, Inc.	8.50%
ATCO Gas	8.50%
Enbridge Gas <sup>75</sup>	8.34%
FortisBC Energy	8.75%
Gaz Metro LP	8.90%
Gazifere Inc.	9.10%
Heritage Gas Limited	11.00%
Pacific Northern Gas Ltd.	9.50%
Pacific Northern Gas Ltd. (Fort St. John/Dawson Creek)	9.25%
Pacific Northern Gas Ltd. (Tumbler Ridge)	9.50%
Canadian Gas Average	9.13%
Canadian Gas Median	9.00%
US Gas LDC Average (2019/2020)	9.58%
US Gas LDC Median (2019/2020)	9.60%

12  
<sup>75</sup> Enbridge Gas Distribution and Union Gas Ltd. were combined in January 2019 to form Enbridge Gas.



1 As shown in Figure 30, the average authorized returns for other Canadian gas distribution  
2 companies range from 8.34 percent (the Ontario formula return) to 11.0 percent for Heritage  
3 Gas in Nova Scotia, with an average of 9.13 percent. These returns are well above the return  
4 for a benchmark distribution utility of 8.13 percent that was set by the Board in 2010.<sup>76</sup> The  
5 average authorized return for gas distributors in the U.S. is higher at 9.58 percent in 2019  
6 and 2020. These authorized equity returns serve as a benchmark that investors consider in  
7 setting their return requirements for gas distribution companies. This evidence  
8 demonstrates that the return requirements for a benchmark utility are higher than what was  
9 approved by the Board in 2010. In addition, as discussed in the following section, Liberty has  
10 greater business and financial risk than other gas distribution companies in Canada, which  
11 supports a risk adjustment to the average return for a benchmark distribution utility. In  
12 particular, Liberty has higher risk due to its small size (both in terms of customers and  
13 throughput), the absence of deferral and variance accounts which are common for other gas  
14 distributors in Canada and the U.S., and the fact that the other gas distributors except for  
15 Heritage Gas Limited (“Heritage Gas”) have provided service to customers for many decades  
16 Figure 31 summarizes several key points of comparison, which are discussed in more detail  
17 following the table.

---

<sup>76</sup> Decision in the Matter of a Review of the Cost of Capital for Enbridge Gas New Brunswick L.P., November 30, 2010



1 **Figure 31: Risk Comparison of Canadian Gas LDCs<sup>77</sup>**

Company	2019 Customers	2019 Annual Throughput (000 GJs)	2019 Annual Revenues C\$ (millions)
Liberty Utilities Gas New Brunswick	12,000	5,575	\$49.3
Heritage Gas Ltd	7,700	10,100	\$121.3
Pacific Northern Gas Ltd	42,000	10,159	\$264.2
Gazifere	43,500	7,000	\$228.4
Energir (formerly Gaz Metro)	207,000	238,700	\$1,561.9
FortisBC Energy	1,041,000	227,000	\$1,331.0
ATCO Gas	1,232,400	270,505	\$824.1
AltaGas Utilities	80,700	20,686	\$117.2
Enbridge Gas	3,755,000	516,999	\$5,084

2

3 Heritage Gas is most comparable to Liberty in Canada. In 2003, Heritage Gas was granted a  
 4 25 year franchise agreement to provide natural gas distribution service in Nova Scotia, a  
 5 province that did not previously have natural gas. Like Liberty, Heritage Gas is a greenfield  
 6 gas distribution company. At year-end 2019, Heritage Gas had approximately 7,700  
 7 customers (7,200 residential and 500 commercial), rate base of \$313 million, annual

<sup>77</sup> Source: Customer data for Heritage Gas Ltd from company website; revenue data from 2019 Financial Compliance Filing with Nova Scotia Utility and Review Board, and throughput data from Black and Veatch Rate Class Survey for Liberty. Revenue data for Pacific Northern Gas Ltd. and Gazifere from Dun & Bradstreet. Customer and throughput data from Black and Veatch Rate Class Survey. Revenue data for Energir from 2019 annual report, at 97, throughput data at 19, and customer data from 2019 MD&A, at 6. Data for FortisBC Energy from Fortis 2019 annual report, at 27, and customer data at 17. Data for ATCO Gas and AltaGas Utilities from Rule 005 filings with Alberta Utilities Commission. Data for Enbridge Gas from 2019 Annual Report and 2019 Consolidated Financial Statements.



1 revenues of \$121 million (approximately 2.5 times larger than Liberty) and annual customer  
2 growth of approximately five percent. There are approximately 21,400 potential customers  
3 with access to the Heritage Gas system. Natural gas has been adopted by all major hospitals  
4 and universities in Halifax, as well as many schools and businesses. Heritage Gas has an  
5 authorized ROE of 11.0 percent and a deemed common equity ratio of 45.0 percent, both of  
6 which were established in a November 2011 decision.

7 Pacific Northern Gas-West (PNG-West) serves approximately 42,000 gas distribution  
8 customers (3.5 times larger than Liberty) in British Columbia. PNG-West's annual  
9 throughput is 1.8 times larger than Liberty's, and its annual revenues are approximately 5.4  
10 times greater than Liberty's, at \$264 million. The British Columbia Utilities Commission  
11 ("BCUC") determined in the 2016 GCOC Stage 2 proceeding that PNG-West had higher risk  
12 than the benchmark utility with respect to customer growth, market demand and throughput  
13 risk (due to the loss of a major customer, which caused total system throughput to decline by  
14 87 percent from 2003-2012).<sup>78</sup> Liberty has also experienced issues related to slower than  
15 expected customer growth and declining average use per customer over the past decade.  
16 PNG-West's authorized ROE of 9.50 percent is based on a risk premium above the benchmark  
17 utility in British Columbia, which is FortisBC Energy. PNG-West was awarded a risk premium  
18 of 75 basis points above the benchmark utility by the BCUC in the GCOC Stage 2 proceeding.<sup>79</sup>  
19 PNG-West has 46.5 percent deemed common equity, as compared to Liberty's 45 percent  
20 common equity ratio.

21 In Quebec, Gazifere provides gas distribution service to approximately 43,500 customers (3.6  
22 times larger than Liberty) has annual throughput that is 1.26 times greater than Liberty's  
23 and annual revenues that are 4.6 times larger than Liberty, at \$228 million. Gazifere has an  
24 authorized ROE of 9.10 percent and a deemed common equity ratio of 40.0 percent. Energir  
25 (formerly Gaz Metro) provides gas distribution service to slightly more than 200,000  
26 customers, including Montreal. Energir's annual gas distribution revenue in Quebec is  
27 approximately 32 times greater than Liberty's, at slightly more than \$1.56 billion. Energir  
28 has an authorized ROE of 8.90 percent and a deemed common equity ratio of 38.5 percent.

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<sup>78</sup> Ibid, at 102.

<sup>79</sup> BCUC Generic Cost of Capital Proceeding (Stage 2) Decision, March 25, 2014, at 113.





1 In addition, Energir has 7.5 percent preferred stock in its capital structure, meaning that its  
2 long-term debt represents 54.0 percent of the total capital structure for Gaz Metro.

3 In British Columbia, the benchmark utility is FortisBC Energy, which is substantially larger  
4 than Liberty, both in terms of retail customers served and regulated revenues. FortisBC  
5 Energy serves slightly over one million gas distribution customers (87 times larger than  
6 Liberty) and has annual revenues of \$1.33 billion (27 times higher than Liberty). FortisBC  
7 Energy also has more cost recovery protection through deferral and variance accounts and  
8 more revenue stability through a weather normalization clause than Liberty. FortisBC  
9 Energy has an allowed ROE of 8.75 percent on 38.5 percent common equity.

10 In Alberta, ATCO Gas provides gas distribution service to over 1.2 million customers and has  
11 annual revenues of \$824 million (17 times larger than Liberty). ATCO Gas has an authorized  
12 ROE of 8.50 percent, based on the generic ROE in Alberta, and a deemed equity ratio of 37.0  
13 percent. AltaGas Utilities provides gas distribution service to approximately 80,700  
14 customers (6.7 times larger than Liberty) and annual revenues of \$117 million (2.4 times  
15 greater than Liberty). AltaGas Utilities has an authorized ROE of 8.50 percent, based on the  
16 generic ROE in Alberta, and a deemed equity ratio of 39.0 percent. In Ontario, gas distribution  
17 service is provided by Enbridge Gas, which serves almost 3.8 million customers and has  
18 annual revenues of slightly more than \$5.0 billion (103 times larger than Liberty). Enbridge  
19 Gas has an authorized ROE of 8.34 percent (set by the OEB's annual formula) and a deemed  
20 common equity ratio of 36.0 percent.

## 21 **H. Relative Risk of Liberty and North American Proxy Group**

22 The purpose of the proxy group risk analysis is to both select companies for cost of equity  
23 analysis and to determine whether any adjustments should be made to account for  
24 differences in business and financial risk between the proxy groups and Liberty. Because the  
25 number of companies in the Canadian proxy group is limited, it is necessary to look beyond  
26 Canada to incorporate a U.S. sample of low-risk gas distribution utilities in a North American  
27 proxy group. To evaluate the comparability of these companies, I have examined the business  
28 and financial risks of those companies relative to those of Liberty.

29 The North American proxy group is screened for U.S. holding companies comprised primarily  
30 of regulated gas distribution utilities. The resulting group of North American regulated



1 utilities has a risk profile similar to that of a benchmark utility. As shown in Exhibit JMC-10,  
2 all proxy group companies operate in exclusive service territories, with slightly more than  
3 half (52 percent) of the operating utilities held by the proxy group setting rates based on a  
4 forecast or partially forecast test year. The North American proxy group operating  
5 companies have an average credit rating of A-, as compared with BBB for Liberty.

6 Like Liberty, the North American proxy group utilities have no exposure to commodity price  
7 risk or supply risk due to the prevalence of fuel pass-through mechanisms. Further, North  
8 American utilities are increasingly protected from market (or demand) risk by full or partial  
9 decoupling mechanisms, with 66 percent of the proxy group operating companies protected  
10 to some extent by such mechanisms. Regulatory lag is mitigated by the use of generic  
11 infrastructure riders, capital trackers, and deferral accounts which are employed by the vast  
12 majority of the proxy group. For example, 64 percent of the operating companies in the proxy  
13 group have generic infrastructure riders, and 52 percent have a deferral account or other  
14 mechanism to recover costs associated with conservation program expenses.

15 Liberty is closely aligned with the North American proxy group in terms of test year  
16 convention and commodity price risk. However, Liberty has greater volumetric risk than the  
17 North American proxy group due to an absence of either revenue decoupling or weather  
18 normalization mechanisms that mitigate the effect of changes in demand on Liberty's  
19 revenues and cash flows. In addition, Liberty has many fewer cost recovery mechanisms such  
20 as riders and capital trackers than the North American proxy group. This elevated business  
21 risk places Liberty's risk profile well above that of my average proxy group companies. I  
22 consider these risk differences in combination with financial risks in recommending an  
23 equity ratio for Liberty.

24 Based on my research and analysis, an ROE toward the upper end of the range for the proxy  
25 group is appropriate for a company of Liberty's risk profile. Considering the range of results,  
26 the low end of the estimates are for the U.S. proxy group, and the upper end estimates are for  
27 the Canadian proxy group. I believe the upper end average is warranted. This reflects a risk  
28 differential of 160 basis points over the lower end benchmark set by the U.S. proxy group  
29 results. This implicit risk adjustment derived from the proxy group differential is 115 basis  
30 points lower than the explicit risk adjustment of 275 basis points that was authorized by the  
31 Board in 2010. A reduction in the risk adjustment is reasonable given the fact that Liberty no



longer has a large balance in two deferral accounts and given the Board's determination that Liberty is no longer in the development period. However, some risk differential remains appropriate due to the very small size and other business and operating risks of Liberty relative to other gas distribution companies in Canada, including competitive risk, market risk, and regulatory/political risk. As discussed previously, Heritage Gas, which is the most similar comparator to Liberty in Canada, has an authorized ROE of 11.0 percent and a deemed common equity ratio of 45.0 percent.

## **I. Financial Risks for Liberty**

Financial risk exists to the extent a company incurs fixed obligations that are senior to common equity in financing its operations. These fixed obligations increase the level of income which must be generated to cover interest payments before common stockholders receive any return, directly impacting equity investors in addition to business risks. Fixed financial obligations also reduce a company's financial flexibility and its ability to respond to adverse economic circumstances and capital market conditions, such as those during the ongoing COVID-19 pandemic that began to affect financial markets in February 2020.

The equity component in the capital structure, besides providing a return that compensates shareholders for their investment, serves to buffer unanticipated earnings swings. If the equity layer becomes too thin, lenders will be concerned that the company may not be able to meet its fixed debt obligations and will require a higher yield to compensate for the additional risk. Additionally, as the equity layer is reduced, earnings are also reduced such that an unexpected earnings disruption has a greater impact on the thinner equity layer. Shareholders require a higher return to compensate for this increased risk to their investment return. Accordingly, an appropriate equity ratio benefits both shareholders and customers by reducing overall financing costs.

In the 2010 decision, the Board set Liberty's deemed equity ratio at 45.0 percent. This represented a five percent reduction in the deemed equity ratio of 50.0 percent that was established by the Board in 2000.

### **1. Comparison to Capital Structure of Other Canadian and U.S. Gas Distributors**



1 As explained in Section IV, I have selected three proxy groups consisting of Canadian, U.S.,  
2 and North American utilities for purposes of establishing my ROE recommendation for  
3 Liberty. In order to assess the reasonableness of the common equity ratio for Liberty, my  
4 analysis is based on a comparison to the equity ratios of other investor-owned gas  
5 distributors in Canada and the U.S. at the operating company level because that is the level at  
6 which a regulated capital structure is established based on an evaluation of the business risk  
7 of the utility and related factors.

8 As shown in Figure 32, Liberty's deemed common equity ratio of 45.0 percent is higher than  
9 eight of the eleven other Canadian investor-owned gas distribution operating utilities. The  
10 median authorized common equity ratio for the operating companies in the U.S. Gas proxy  
11 group is 52.0 percent, which is approximately 7.0 percentage points higher than Liberty's  
12 current deemed common equity ratio of 45.0 percent.



1

**Figure 32: Comparison of Deemed Equity Ratios**

Operating Utility	Deemed Equity Ratio
<b>Liberty Gas New Brunswick (existing)</b>	45.0%
<b>Liberty Gas New Brunswick (proposed)</b>	50.0%
AltaGas Utilities, Inc.	39.0%
ATCO Gas	37.0%
Enbridge Gas	36.0%
Energir (formerly Gaz Metro) <sup>80</sup>	38.5%
FortisBC Energy	38.5%
Gazifere Inc. <sup>81</sup>	40.0%
Heritage Gas Limited	45.0%
Pacific Northern Gas Ltd.	46.5%
Pacific Northern Gas Ltd. (Fort St. John/Dawson Creek)	41.0%
Pacific Northern Gas Ltd. (Tumbler Ridge)	46.5%
<b>Canadian Gas Average</b>	<b>40.8%</b>
<b>Canadian Gas Median</b>	<b>39.0%</b>
<b>US Gas LDC Average (2019/2020)</b>	<b>52.5%</b>
<b>US Gas LDC Median (2019/2020)</b>	<b>52.0%</b>

2

It is reasonable for Liberty to have an above average deemed equity ratio given the small size and other business risks of Liberty as compared to the Canadian gas distribution companies listed in Figure 32. Liberty's deemed equity ratio of 45.0 percent is consistent with the equity thickness that has been authorized for other smaller gas LDCs including Heritage Gas at 45.0 percent, Pacific Northern Gas at 46.5 percent, and Pacific Northern Gas (Tumbler Ridge) at 46.5 percent. In addition, the capital structure for both Gaz Metro and Gazifere also includes preferred stock, which further reduces the long-term debt component of the capital structure for those two companies, providing these companies with an equity cushion Liberty does not have. Moreover, the deemed equity ratio for Liberty is lower than any of the authorized equity ratios for the operating companies held by the U.S. Gas proxy group. By comparison to other Canadian gas distributors, Liberty's equity ratio of 45.0 percent is reasonable,

<sup>80</sup> Energir also has 7.5 percent preferred equity in its capital structure.

<sup>81</sup> Gazifere also has 5.0 percent preferred equity in its capital structure.



1 considering its size and market risks. In comparison to the U.S. Gas proxy group, Liberty's  
2 current deemed equity ratio is low, especially given the small size of Liberty relative to the  
3 operating companies held by the Canadian and U.S. Gas proxy groups.

## 4 **2. Analysis of Credit Metrics**

5 Credit metrics provide a snapshot of how a company is financed and to what extent fixed  
6 obligations absorb income and cash flows. Credit analysts focus on the potential for default  
7 on debt obligations and rate the financial strength of the companies they cover, with A range  
8 entities being more resilient and anything less than investment grade, i.e., BB+ or lower (for  
9 S&P, Morningstar DBRS and Fitch), or Ba1 and lower (for Moody's), being more volatile and  
10 higher risk. It is important to note that rating agencies analyze the default risk for *debt*  
11 *holders*, and they consider equity as a cushion for debt, but do not focus on the residual risk  
12 to the *equity shareholders*. Oftentimes, those risks are aligned at a macro level, but there have  
13 been notable cases where credit ratings have not been a good measure of shareholder risk.  
14 That is the case, for example, where a credit rating is supported at the expense of  
15 shareholders, lowering risk to creditors but increasing risk to shareholders.<sup>82</sup>

16 Ordinarily, I would compare the credit metrics of the target company with the proxy group  
17 companies, where possible, to draw conclusions regarding financial risk. I am unable to do  
18 so in this case, however, because Liberty is not a rated entity due to its small size and  
19 dependence on its parent for both debt and equity. On a stand-alone basis, Liberty would be  
20 disadvantaged against its peers for raising debt in capital markets, and would pay a premium.

---

<sup>82</sup> See Maritimes & Northeast Pipeline ("M&NP"), which had its A rating confirmed in April 2009 despite the fact that since November 2007, all cash distributions to equity owners were escrowed for the benefit of lenders. See DBRS, Maritimes & Northeast Pipeline Limited Partnership Report, April 9, 2009, where it states "...Consequently, M&NP Canada's equity owners (77% Spectra Energy Corp, 13% Emera Inc. and 10% ExxonMobil Corporation (ExxonMobil)) have not received cash distributions since November 30, 2007. This will continue until cash balances have been built up to an amount sufficient to meet all remaining scheduled principal and interest payments on the M&NP Canada Notes until maturity in November 2019. DBRS notes that the conventional natural gas reserve outlook for the east coast of Canada has deteriorated since the Test was incorporated into the M&NP Canada financing documents in 1999. Consequently, the M&NP Canada noteholders have the benefit of this protection."



1        **J. Deemed Equity Recommendation for Liberty**

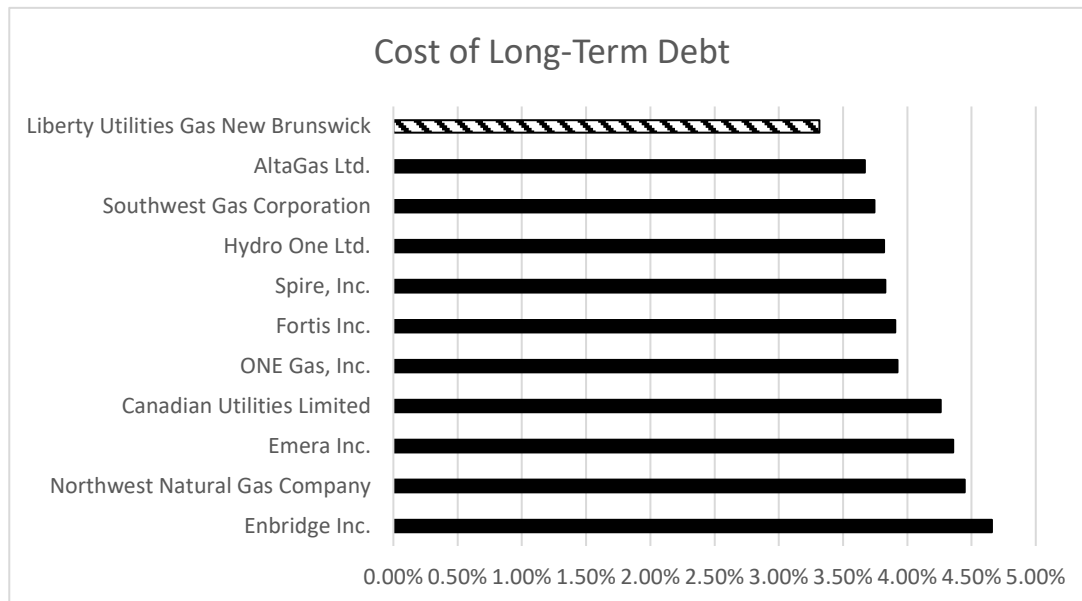
2        In the Board's 2010 decision, the deemed equity ratio for Liberty was reduced from 50.0  
3        percent to 45.0 percent. This change was made even though Liberty was still considered to  
4        be in the development period. It was not until 2016 that the Board determined that Liberty  
5        would no longer be in the development period once the initial franchise agreement expired  
6        in 2019. My risk assessment evidence indicates that Liberty has higher risk than most other  
7        investor-owned gas distributors in Canada, as well as the Canadian and North American  
8        proxy group companies. In particular, Liberty is significantly smaller both in terms of  
9        customer count and implied market capitalization than its peer group; Liberty has greater  
10       volumetric risk and declining average use per customer; and Liberty's competitive risk and  
11       supply risk both have increased since 2010. For all of these reasons, I recommend that the  
12       deemed equity ratio for Liberty be maintained at a minimum of 45.0 percent, with 50.0  
13       percent not an unreasonable target.

14       **K. Cost of Debt for Liberty**

15       Liberty's current cost of debt is based on a 30-year debt issuance by the parent company  
16       (Liberty Utilities (Canada) LP) of C\$200 million in February 2020 with an interest rate of  
17       3.315 percent. C\$155 million of this amount was loaned by the parent to Liberty under a  
18       promissory note dated April 1, 2020. I compared Liberty's debt cost to the embedded long-  
19       term debt cost for the companies in my North American proxy group, which have an average  
20       A- credit rating from S&P. That analysis reveals that Liberty's debt cost of 3.315 percent is  
21       74 basis points lower than the average embedded debt cost for the North American proxy  
22       group of 4.06 percent. As shown in Figure 33, Liberty's debt cost is lower than any of the  
23       companies in the North American proxy group.



1 **Figure 33: Long-term Debt Cost Comparison**



2  
3 My conclusion is that Liberty's low long-term debt cost provides an important cost advantage  
4 to customers that partly offsets the Company's higher than average requested ROE.

5 **VIII. CONCLUSIONS AND RECOMMENDATIONS**

6 As shown in Figure 34, the average results from the alternative models and proxy groups  
7 cover a range from 9.9 percent to 11.5 percent. As discussed in my risk assessment, a higher  
8 ROE than the average is justified based on the relative risk of Liberty in relation to the proxy  
9 group companies. I therefore consider 11.5 percent, the upper end of the proxy results for  
10 the Canadian Proxy Group using a forward-looking CAPM, most appropriate for Liberty. This  
11 reflects a 160 basis point differential over the lower risk U.S. proxy group benchmark using a  
12 forward-looking CAPM, which I believe is appropriate for a company of Liberty's risk profile.





1

**Figure 34: Summary of Mean Results<sup>83</sup>**

	<b>CANADIAN UTILITY PROXY GROUP</b>	<b>U.S. GAS PROXY GROUP</b>	<b>NORTH AMERICAN PROXY GROUP</b>
<b>CONSTANT GROWTH DCF</b>	12.05%	9.58%	10.95%
<b>MULTI-STAGE DCF</b>	10.92%	8.97%	10.05%
<b>FORWARD-LOOKING CAPM</b>	11.61%	11.44%	11.54%
<b>ALTERNATIVE CAPM</b>	10.12%	9.97%	10.06
<b>RISK PREMIUM</b>		9.71%	
<b>AVERAGE WITH FORWARD- LOOKING CAPM</b>	<b>11.5%</b>	<b>9.9%</b>	<b>10.8%</b>
<b>AVERAGE WITH ALTERNATIVE CAPM</b>	<b>11.0%</b>	<b>9.6%</b>	<b>10.4%</b>

2

3

4

These recommendations are based on a cost of capital analysis utilizing the DCF, CAPM and Risk Premium models, and a combination of Canadian, U.S. and North American proxy group companies. I have also considered the Board's regulatory precedents, including the 2016 determination that Liberty is no longer in the development period, Liberty's business and financial risks, and issues around the Development O&M deferral account and the Regulatory deferral account. Based on the foregoing, I recommend an authorized return for Liberty of 11.5 percent. Given the risk profile of Liberty relative to other companies in the Canadian and U.S. comparator groups, an equity ratio of 50.0 percent is my recommendation. This ratio is still below the average of larger and lower risk U.S. gas distributors, but higher than other Canadian gas distributors justified by a smaller customer, throughput and revenue profile which imposes greater business risk. These recommendations meet both the requirements of the fair return standard and stand-alone principle, as well as provide sufficient support for the financial integrity and soundness of Liberty.

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<sup>83</sup> Results include 50 basis points for flotation costs and financing flexibility, except for Risk Premium results for U.S. proxy group.