OEB File No.: EB-2024-0063

ONTARIO ENERGY BOARD

IN THE MATTER OF the *Ontario Energy Board Act, 1998*, S.O. 1998, c.15 (Schedule. B);

AND IN THE MATTER OF a generic proceeding commenced by the Ontario Energy Board on its own motion to consider the cost of capital parameters and deemed capital structure to be used to set rates.

COMPENDIUM OF DOCUMENTS FOR CROSS EXAMINATION OF

LONDON ECONOMICS INTERNATIONAL LLC. ("LEI")

(September 25, 2024)

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22.	LEI Expert Report, 21 June 2024.	p. 116, fig. 38	p. 51
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recommended ROEs" is without merit. Indeed, using the October 2022 data, FortisBC points out that relying on the Canadian proxy group tends to slightly increase the overall ROE.[61]

FortisBC also submits that there is ample basis for using US data in ROE analysis: a) both experts agree it is appropriate and both favour North American proxy groups; b) the BCUC's 2016 Decision used the US proxy groups results, citing both increasing integration and the scarcity of Canadian publicly traded utilities; c) other Canadian regulators have taken a similar approach; and d) the extent of integration has only increased over time.[62]

Finally, FortisBC observes that RCIA has chosen to rely on US data to estimate the risk-free rate when this has the effect of suppressing its ROE results.[63]

Panel Determination

We begin our analysis by noting that both Mr. Coyne and Dr. Lesser agree with the need to establish a proxy group of companies. In doing so, we are cognizant of the need to ensure that we are indeed comparing apples to apples, notwithstanding any jurisdictional and operational differences between the utility in question and its proposed peers**.**

Furthermore, the makeup of any proxy group inherently involves some degree of professional judgment and discretion. Unfortunately, there are no reasonable comparators to FEI and FBC in BC. This is because FEI is the single largest natural gas distributor in the Province (PNG is considerably smaller), and in respect of FBC, there are no other vertically integrated electric utilities that are of comparable size within BC. This requires us to look elsewhere in Canada for suitable proxies to FEI and FBC.

In an ideal world, there would be sufficient comparators to each of FEI and FBC in Canada to allow the BCUC to use only data pertaining to Canadian counterparts as a starting point. However, the reality is to the contrary. As Mr. Coyne notes in his evidence, using a Canadian proxy group comprised of publicly traded, regulated Canadian electric and natural gas utility companies with comparable business and financial characteristics yields only six utilities (three electric and three gas). Due to this limited number, the only screening criterion that Mr. Coyne uses is an investment grade credit rating, which all six utilities possess. However, as Table 2 above shows, all three Canadian gas utilities (AltaGas Ltd., Canadian Utilities Limited and Enbridge Inc.) have total assets and annual revenues that range from double to 28x those of FEI, and one of them (Enbridge Inc.) only derives 16 percent of its total income from its regulated activities.

With respect to the three Canadian electric utilities, Table 3 shows that all three have total assets and annual revenues that range from 5x to 17x those of FBC. This suggests that these comparators may provide limited value for the purpose of determining an appropriate ROE for FEI and FBC and that our review of proxy groups therefore should not be confined to Canadian utilities alone.

With respect to using non-Canadian comparators, as Mr. Coyne correctly points out, several Canadian regulators, including the BCUC, have recognized the integrated nature of Canadian and US financial markets,

[61] Ibid., p. 58.
[62] FortisBC Reply Argument, p. 58.
[63] Ibid., p. 59.

that Canadian utilities are competing for capital in global financial markets and that Canadian data are limited by the small number of publicly traded utilities. This has led to Canadian regulators adopting a pragmatic view of the use of US data and proxy groups to estimate the allowed ROE for Canadian regulated utilities. We see no reason to deviate from the BCUC's previous determination regarding the reasonableness of using US market data and proxy groups and endorse the wisdom of continuing to do so in light of the small sample size of Canadian comparators notwithstanding any jurisdictional differences. We accept Mr. Coyne's evidence that the US gas and electric proxy groups are more comparable to FEI and FBC, respectively, in terms of business risk than the Canadian proxy group utilities, many of which have significant non-gas or non-electric operations and unregulated operations.

We agree as a matter of principle with the experts' suggestion to give primary weight to North American gas and electricity proxy groups. As Dr. Lesser notes, this change in practice is reflected in FERC now allowing for Canadian companies to be included in proxy groups for setting ROEs for US pipelines and transmission utilities because of the level of integration and the similarity in how they are regulated.[64]

We note that ICG and BCOAPO both agree with FortisBC's submission that "the BCUC should place the greatest weight on the North American proxy group results in light of the expert evidence." We reject the CEC's suggestion to give substantial and equal weighting to the Canadian utilities, US utilities, and North American utilities proxy groups, and to simply average the results of each of these proxy groups. For the reasons outlined above, we find the use of the Canadian proxy groups and US proxy groups alone to be inferior to that of using a North American proxy group which has a reasonable mix of both Canadian and US comparators, and the averaging of the results of these three groups to be a poor compromise. On balance, we find that having a proxy group of North American comparators trumps any jurisdictional or structural differences. In making this determination, we rely on the facts that financial and capital markets are highly integrated and that utility regulatory regimes in North America are sufficiently similar for the purpose of establishing a comparable ROE.

However, with respect to the use of a North American gas proxy group, Mr. Coyne believes that only AltaGas Ltd. from the Canadian utilities would pass the six screening criteria he uses to create a group of essentially pure-play US gas and electric utilities with similar risk profiles to FEI and FBC respectively (Enbridge Inc. would not pass due its low portion of earnings from natural gas operations and similarly, Canadian Utilities Limited would not pass due to an approximate equal focus on electric and gas operations). With respect to a North American electric proxy group, Mr. Coyne expects three to four Canadian companies would pass the screening criteria. As a result, we find merit in BCOAPO's submission that Mr. Coyne's North American proxy groups will need to be revised to exclude the non-qualifying Canadian utilities.

Finally, we reject RCIA's submission for the BCUC to only use Canadian data for the Canadian proxy group because it is country and market specific. Instead, we agree with FortisBC that there is ample basis to include US data in our ROE analysis because:

- There are insufficient comparators to each of FEI and FBC in Canada to allow the BCUC to use only data pertaining to Canadian counterparts;

[64] Exhibit A2-3, Lesser Report, pp. 14–15.

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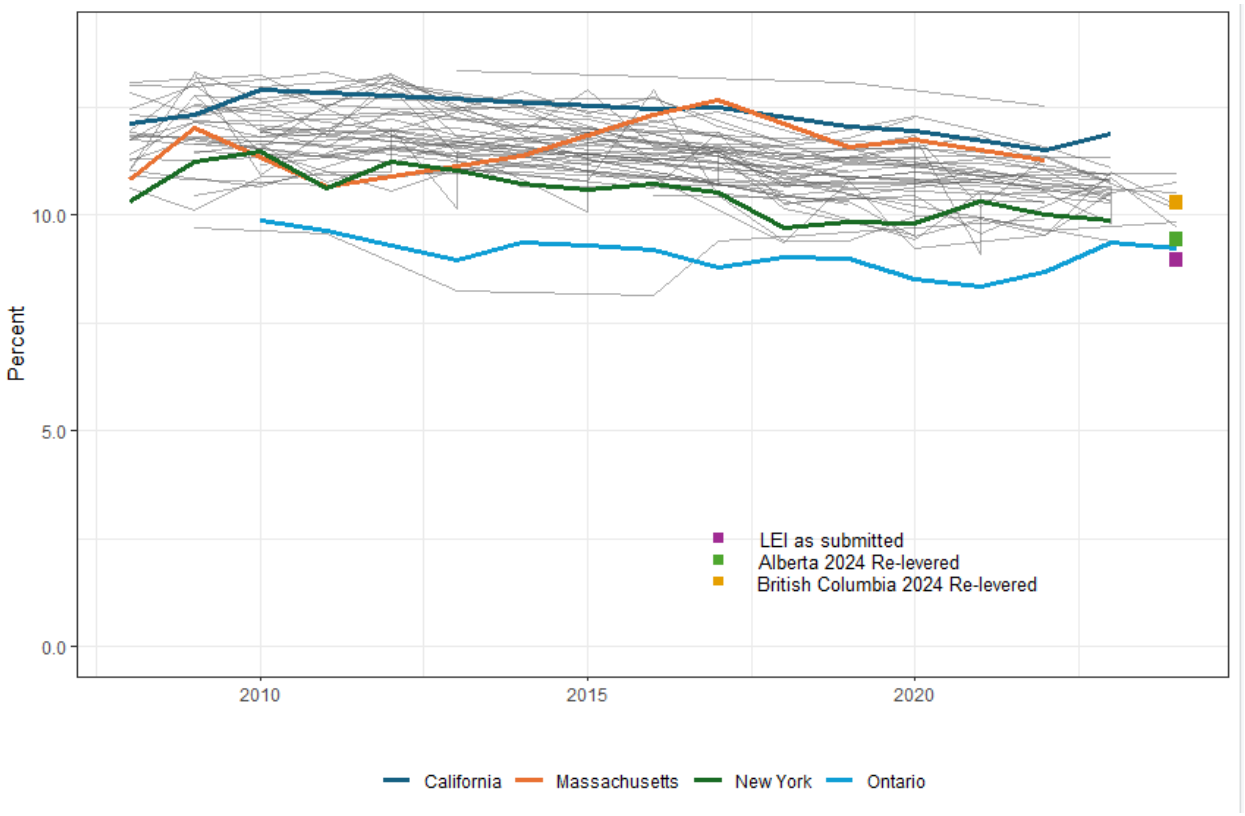
Concentric is correct that allowed equity ratios in Alberta and British Columbia are 37% and 41%, respectively.

Figure 1 (corrected) is below. We also include the 50 basis point transaction cost adder for BC, which we did not have before, because BC has authorized the utility to apply for it. The Alberta figure already includes transaction costs.



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that follows up on your observation that the regulatory treatment in terms of rates in the United States tends to be more generous than that of regulators in Canada. And I may have missed this in the evidence, but your conclusion is based on a general review of the data? Or is there specific data that you have referenced in relation to making that comparison?

MR. GOULDING: So, I'll leave Mr. Pinjani to supplement, but I think we have referenced ROEs in our work and we've also responded to some IRs in that regard. And so, I think there's probably broad agreement amongst the experts that the ROEs in Ontario are on the low end, as noted, there are challenges in pulling together comparators. We have chosen to use pure plays and then create a synthetic vertically integrated Ontario utility. An alternative as we mentioned is to look only at vertically integrated utilities. But nonetheless, I believe the data is both in our report and certainly other experts have provided different views, but some similar data.

MR. PINJANI: And I think it's to do with not just the ROE, but also capital. On both sides, you'll see that observed data shows that U.S. in general has a higher average authorized equity thickness as well as higher average ROE.

MR. JANIGAN: Now, do you expect if the OEB adopted your recommendations that those rates would move closer together or would stay pretty much the same in terms of

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M3-10-AMPCO/IGUA-27

Reference: On page 22, Nexus includes Figure 5, which reports "Authorized ROEs for Ontario and Peer Jurisdictions (Re-levered to 60:40)".

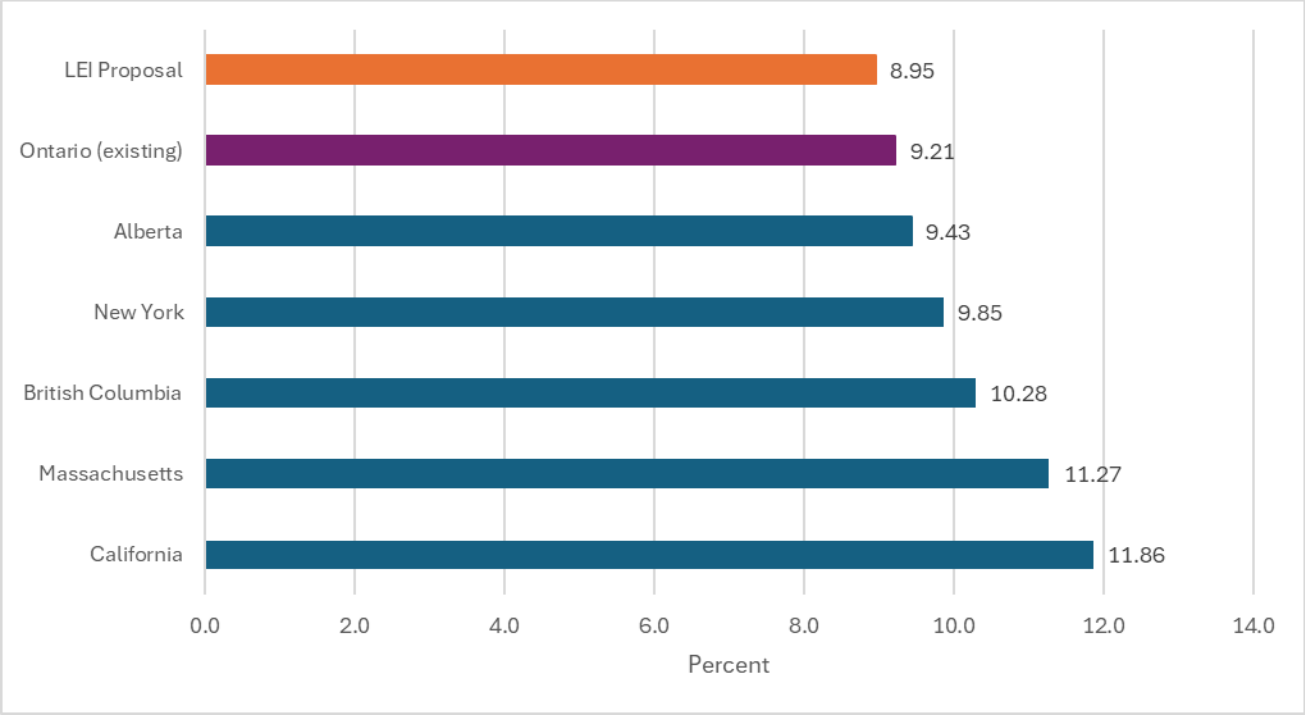
Questions:

(a) Please provide the calculations, including formulae, inputs etc., used to "re-lever" Alberta and B.C. ROE estimates of 9.91% and 10.31% (the current allowed ROEs for which are 9.28% and 9.65% respectively based on their currently allowed ERs of 37% and 41% respectively, as all noted on Figure 27 on page 80 of Concentric's evidence).

Response:

Please see the Excel worksheet M3-Fig 05 Ontario ROE vs Comps (version 2).xlsx at tab [avgROEAdj Fig 5]. This tab links to supporting tabs in that same Excel file.

Using the data provided above (and the risk-free rates of 3.43 for Alberta and 3.50% for BC, which are based on our reading the reports), Alberta's re-levered ROE would be 9.43% and BC's would be 10.28% (including 50 bp transaction).



(b) Please provide all data and workpapers (in excel format), including all formulae and calculations, used to prepare Figure 5.

Please see the worksheet referred to in (a).

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likelihood of recovery. As such, while energy transition is in process, there is no evidence that energy transition impacts either timing or recovery of cash flows for the regulator utilities, particularly in the upcoming regulatory period. That is 2025 to 2029.

Second, there is no evidence that OEB regulated utilities have been unable to raise capital on reasonable terms.

Third, risk is a function of the activity and not dependent upon the nature of the investor, meaning size, type of organization, or community status are less relevant if within the control of the investor.

Fourth, change in compliance burden associated with LEI recommendations, for example, reporting new debt and equity issuances and mandating cash flow modelling is minimal given such information already exists with the utilities.

Fifth, LEI believes that unique issues associated with First Nations and Indigenous groups are critical, however are best addressed in a separate proceeding. To this end, LEI has previously reviewed case studies associated with First Nations participation in a separate report from 2023.

Sixth, while some experts have emphasized differences between Ontario authorized returns and U.S. authorized returns, it is arguable whether some U.S. regulators are more generous than justified.

Finally, for ROE determination, while LEI believes there is no academic justification averaging multiple

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Relevant Supreme Court decisions affirming a public utility's right to earn a fair return

The Supreme Courts in both the US and Canada have upheld that publicly owned utilities are entitled to a fair return on equity, in the same way that privately owned utilities are entitled to earn a fair return. This will enable utilities to finance their capital investments appropriately.

In Bluefield Waterworks & Improvement Company v. Public Service Commission of the State of West Virginia et al (Bluefield) the US Supreme Court stated: *"A public utility is entitled to such rates as will permit it to earn a return on the value of the property which it employs for the convenience of the public equal to that generally being made at the same time and in the same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties."*[111]

In British Columbia Electric Railway Company Limited vs. Public Utilities Commission of British Columbia, 1960, SCR, on page 853, the Supreme Court of Canada stated: "*… A public utility which operates in a rapidly expanding community may be required to make substantial expenditures of that nature in order to keep pace with increasing demands. It must, if it is to fulfill those obligations, be able to obtain the necessary capital which is required, which it can only do if it is obtaining a fair rate of return upon its rate base."*[112]

4.1.3 Potential alternatives

With respect to considering the ***source of funding*** in determining the cost of capital parameters, LEI suggests considering two options:

1. **Status quo:** As described in Section 4.1.1, the OEB's current methodology already implicitly considers the impacts of potentially different interest rates based on the source of debt funding in its current methodology.
2. **Uniform/benchmark debt rate for all utilities:** Similar to the UK and Australia examples, the OEB can set benchmark rate(s), incentivizing poor performers from a credit perspective to improve their credit profile (resulting in lower interest rates).

With respect to considering the ***type of ownership*** in determining the cost of capital, LEI considered two options:

1. **Status quo:** As described in Section 4.1.1, the OEB determined in EB-2009-0084 that a utility's ownership structure should not be a relevant factor in determining the cost of capital.
2. **Considering ownership type as a risk factor:** If the OEB believes that the type of ownership significantly changes the risk profile of a utility:

[111] Butler, Pierce, and Supreme Court of The United States. U.S. Reports: Bluefield Co. v. Pub. Serv. Comm., 262 U.S. 679. 1922. Periodical. Retrieved from the Library of Congress.

[112] Supreme Court of Canada. British Columbia Electric Railway Co. v. Public Utilities Commission. October 4th, 1960.

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undertake business/investment activities of similar (or like) risk, the ownership type/structure should not matter.

LEI recommends that the OEB continue with the status quo as the alternative does not meet the FRS (which is a legal requirement, as highlighted in the guiding principles described in Section 3.1) and the general principles of corporate finance and valuation.

LEI recommendations - Issue 1

- The OEB's existing methodology implicitly accounts for differences in sources of funding when approving rate applications. LEI recommends that this aspect of the OEB methodology should be retained.
- Consistent with the OEB's existing policy, the approach to setting the cost of capital parameters and capital structure should not depend on a utility's ownership structure. LEI believes the status quo is consistent with the FRS and Canadian Supreme Court judgement(s).

4.2 General issues – risk factors to be considered in determining the cost of capital parameters and capital structure

Issue 2: ***What risk factors*** (including, but not limited to, energy transition) ***should be considered***, and ***how should these risk factors*** under the current and forecasted macroeconomic conditions ***be considered in determining the cost of capital parameters and capital structure***?

The two key risk factors that need to be considered when determining the cost of capital parameters and capital structure are (i) business risks and (ii) financial risks. While energy transition risk has been specifically mentioned in Issue 2, one can reasonably argue that it is part of business risk, which can ultimately impact the bottom line (i.e., leading to a change in financial risks/returns).[121]

Business risks and financial risks are related to uncertainty surrounding a company's operating earnings and its ability to finance its investments. For example, the AUC defines business risk as follows: *Business risk represents the perceived uncertainty in future operating earnings before the impact of financial leverage (EBIT) and, hence, determines the capacity for a business to be financed with debt as opposed to equity.*[122] Separately, financial risks are primarily linked to a company's ability to continue to finance its capital needs and growth opportunities by attracting investors at reasonable terms.

[121] Credit rating agencies (such as S&P Global Ratings and DBRS Morningstar) also consider energy transition risk as part of business risks, which may ultimately impact financial risks/returns, when assessing ratings for regulated entities. Sources: S&P Global Ratings. Sector-Specific Corporate Methodology. April 4th, 2024. Page 147; DBRS Morningstar. Risks of the Green Energy Transition for U.S. Regulated Electric Utilities. May 21st, 2021.

[122] AUC. Decision 20622-D01-2016 - 2016 Generic Cost of Capital. October 7th, 2016. Page 115.

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4.9.3 Potential alternatives

LEI focused on the three options below:

1. **Status quo:** The OEB may continue to consider ROE and debt rates based on the deemed capital structure, allowing utilities the flexibility to adjust their actual capital structure based on their specific needs.
2. **Consider the lower of deemed equity thickness (or percentage share of equity in the capital structure) and the actual equity thickness:** For a regulated utility, equity is more expensive to finance than debt. If the actual equity share is significantly lower than the deemed share, allowing ROE on the deemed structure leads to a higher cost of capital allowance. However, the utility's debt levels will be significantly higher in such scenarios, leading to increased risk.
3. **Consider the actual utility capital structure** (subject to review during the rate case proceedings).

4.9.4 Recommendations

LEI recommends continuation of the status-quo approach (consider deemed capital structure regardless of the actual capital structure). This ensures fairness to both the utilities (flexibility to optimize the capital structure based on firm-specific needs) and the consumers (by limiting the deemed share of equity, which has a higher financing cost than debt.

If the utilities have more equity than the allowed equity in the capital structure, the equity is capped at the allowed equity thickness. If the utilities have a lower amount of equity than the allowed equity thickness, the higher share of debt makes the utility relatively riskier, justifying the ROE allowed on the excess debt proportion (deemed equity *minus* actual equity). As shown in Figure 28, this is generally not an issue in Ontario.

The level of debt on a company's books directly dictates the perceived riskiness of the utility. A relatively low equity ratio (and, in turn, a higher than optimal debt ratio) affects a utility's ability to raise financing for future investments in its rate base. This is because capital markets (and credit rating agencies) view highly leveraged companies with increasing commitments to debt repayment/debt expense as relatively riskier. This increase in perceived risk increases investors' expected return on capital and increases the overall cost of capital for the utility.

As such, assuming the same level of business risks across companies, the more debt on a particular company's books, the higher the cost of equity required/demanded by equity investors. This is also consistent with the theoretical considerations presented by Modigliani and Miller in their analysis of capital structure (see MM Proposition II in the textbox below).

Modigliani and Miller and the relationship between capital structure and firm value

On the basis of assumptions regarding perfectly ***competitive capital markets*** (with no transaction costs, taxes, bankruptcy costs or agency costs) and ***homogenous expectations*** by investors regarding a firm's cash flows, Modigliani and Miller arrived at two conclusions:

- That a firm's capital structure is irrelevant to its value, because the firm's value is derived from the discounted value of its earnings, which are available to all capital providers (The ***Capital Irrelevance Proposition or MM Proposition I***); and
- A firm's cost of equity increases proportionally as debt-financing increases, because the risk to its shareholders also rises. (The ***Cost of Equity and Leverage Proposition or MM Proposition II***).

Source: F. Modigliani and M. Miller, "The Cost of Capital, Corporation Finance and the Theory of Investment," American Economic Review, Vol. 48, Issue 3, 1958.

The status quo approach is also administratively simple for the OEB while maintaining a balance of fairness for the utilities and consumers, consistent with the principles outlined by LEI in Section 3.1. As the deemed capital structures are intended to, upon application and approval, track significant changes in the sector risk profile, this also meets the FRS.

LEI recommendations - Issue 9

LEI recommends continuation of the status-quo approach (considering deemed capital structure regardless of the actual capital structure).

4.10 Return on equity – recommended revisions to existing methodology in accordance with the FRS

Issue 10: What methodology should the OEB use to produce a ***return on equity that satisfies the Fair Return Standard (FRS)***?

The OEB must legally adhere to the FRS when setting the ROE.[269] The FRS includes the following:

a) **Comparable investment standard**: a fair or reasonable return on capital should be comparable to the return available from the application of invested capital to other enterprises of like risk;

b) **Financial integrity standard**: should enable the financial integrity of the regulated enterprise to be maintained; and

c) **Capital attraction standard:** should permit incremental capital to be attracted to the enterprise on reasonable terms and conditions**.**

[269] OEB. EB-2009-0084. Report of the Board on the cost of capital for Ontario's regulated utilities. December 11th, 2009.

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annually with the current ROE formula using adjustment factors determined in alternative #3, i.e., 0.26 for the LCBF adjustment factor and 0.13 for the utility bond spread adjustment factor.

Using the base LCBF of 3.19% (see Figure 41) and the base utility bond spread determined as of March 2024 (see Figure 44 below), the Annual ROE formula (for year "t") will be as follows:

$$ROE_t = 8.95\% + 0.26 \times (LCBF_t - 3.19\%) + 0.13 \times (UtilBondSpread_t - 1.385\%)$$

Figure 44. Determination of base utility bond spread

Month:	March 2024			
		Bond Yields %		Bond Yield Spreads %
	Day	Govt. of Canada	A-rated Utility	30-yr. Util. over 30-yr
		30-yr	30-yr	Govt.
1	1-Mar-24	3.32	4.66	1.34
2	2-Mar-24			
3	3-Mar-24			
4	4-Mar-24	3.34	4.70	1.36
5	5-Mar-24	3.25	4.62	1.37
6	6-Mar-24	3.23	4.61	1.38
7	7-Mar-24	3.25	4.62	1.37
8	8-Mar-24	3.24	4.62	1.38
9	9-Mar-24			
10	10-Mar-24			
11	11-Mar-24	3.27	4.65	1.38
12	12-Mar-24	3.30	4.70	1.40
13	13-Mar-24	3.33	4.72	1.39
14	14-Mar-24	3.40	4.80	1.40
15	15-Mar-24	3.40	4.81	1.41
16	16-Mar-24			
17	17-Mar-24			
18	18-Mar-24	3.46	4.85	1.39
19	19-Mar-24	3.42	4.82	1.40
20	20-Mar-24	3.40	4.80	1.40
21	21-Mar-24	3.43	4.82	1.39
22	22-Mar-24	3.37	4.75	1.38
23	23-Mar-24			
24	24-Mar-24			
25	25-Mar-24	3.40	4.79	1.39
26	26-Mar-24	3.40	4.80	1.40
27	27-Mar-24	3.35	4.74	1.39
28	28-Mar-24	3.34	4.75	1.41
29	29-Mar-24			
30	30-Mar-24			
31	31-Mar-24			
		3.345	**4.730**	**1.385**
	Sources:	Bank of Canada	Bloomberg	

Sources: Bank of Canada, Bloomberg.

6. Determination of an average base ROE from CAPM, ERP and DCF methodologies, with annual updating of ROE based on #3

To determine base ROE, the OEB can also consider the average ROE from different methodologies (CAPM, DCF and ERP methodologies) to reduce the overreliance on a single methodology. Although international jurisdictions reviewed by LEI rely on CAPM to determine ROE (Australia and the UK), LEI acknowledges that most North American jurisdictions consider a mix of ROE

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Business Risks and Credit Ratings

Given the impact of business risk on utilities' expected return, the Panel reviews this from the perspective of the shareholder, as it is an important consideration for investors when making their investment decisions. Part of this review includes investors' consideration of credit ratings and changes in business risks.

Overall, the Panel finds that FEI's overall business risk to the shareholder has increased since 2016 while FBC's business risk has not changed materially for the shareholder since 2013. However, the Panel considers FEI and FBC's current credit ratings satisfactory for maintaining the financial integrity of each respective utility and that FEI and FBC do not require an improvement in those credit ratings for each utility to continue to attract capital on reasonable terms.

Financial Models

Regulators typically rely on financial models in their determination of an approved ROE because the actual cost of equity for a regulated utility cannot be observed. All models are simplifications of reality, using simplifying assumptions and as such, each model is subject to varying degrees of criticism. Quantitative models produce a range of reasonable results from which the ROE is selected.

The Panel considers three financial models:

1. The Capital Asset Pricing Model (CAPM), based on the relationship between non-diversifiable risk and expected return;
2. The Discounted Cash Flow (DCF), based on the premise that today's stock price represents investors' expectations regarding future cash flows from holding that stock, in terms of dividends and price appreciation; and
3. The Risk Premium Model, based on the premise that common equity capital is riskier than debt and, therefore, equity investors require a greater return than would debtholders.

For the CAPM, Mr. Coyne and Dr. Lesser have different opinions on how to estimate the key variables of risk-free rate and market risk premium (MRP), as well as the data sources for the beta coefficients, a measure of the risk of a security relative to the market. After examining the evidence and considering the views of the experts, we determine that Mr. Coyne's estimated risk-free rate based on forecast long-term government bond yields is reasonable, his data sources and averaging of adjusted data to estimate betas are acceptable, and his method to forecast the MRP, including a 50:50 weighting of historic and forward MRPs, sufficiently balances and moderates the assumption of higher analyst expectations over the next five years with the actual achieved MRPs over a long history. As a result, we are not relying on the CAPM results based on Mr. Coyne's interpretation of Dr. Lesser's preferred approach.

The Panel uses a CAPM ROE, exclusive of an adder for flotation costs and financial flexibility, of 9.90 percent for FEI and 9.77 percent for FBC, respectively, after removing Enbridge Inc. and Canadian Utilities Limited from the North American gas proxy group, as it weights the results of the different ROE models in the overall determination.

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As BCOAPO observes, the evidence is clear that, despite the numerous points upon which Mr. Coyne and Dr. Lesser disagree, they do both agree that ROE estimates should be based on the use of multiple models. BCOAPO supports this premise as a reasonable response to a challenging issue.[345]

The Panel will discuss its views of each model in the next sub-sections, reviewing in turn the CAPM, the DCF methodology, and the Risk Premium Model. The Panel will then determine the various weightings to be attributed to each model in Section 6.3.

Briefly, the CAPM is based on the long-observed relationship between non-diversifiable risk and expected return, the DCF methodology is based on the premise that today's stock price represents investors' expectations regarding future cash flows from holding that stock in terms of dividends and price appreciation, and the Risk Premium Model is based on the premise that common equity capital is riskier than debt and, therefore, equity investors require a greater return than would bondholders.

5.2 Capital Asset Pricing Model

The CAPM is commonly used in business valuation and regulatory jurisdictions to estimate ROE. The CAPM financial model estimates the expected return of an investment or security based on its riskiness relative to the rest of the market. The BCUC has recognized the use of the CAPM in prior cost of capital decisions.[346]

The CAPM is based on the relationship between the required return of a security and the systematic risk of that security and is defined by the following equation:

$$K_e = rf + \beta(rm - rf) \qquad (1)$$

Where:

K_e = the required ROE for a given security;

rf = the risk-free rate of return;

β = Beta is the systematic risk of an individual security;

rm = the required return for the market as a whole; and

(rm – rf) = Market risk premium (MRP) is the premium that equity investors demand to compensate them for the extra risk they accept

Dr. Lesser states that the CAPM is the most used approach for estimating allowed ROE values. In his view, the model is understandable, transparent, based on sound financial theory, and there are readily available data with which to develop CAPM estimates. He explains that the assumptions used in deriving estimates for each of the three CAPM components can have a significant impact on the ROE result and that key empirical issues for regulators to consider when using the CAPM are as follows:

a) What risk-free rate (*rf*) should be used;

[345] BCOAPO Final Argument, p. 37.

[346] 2013 Decision, 2016 Decision.

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methodologies. A summary of methodologies used in other jurisdictions is shown in Figure 45 below.

Figure 45. ROE methodologies used in other jurisdictions

Jurisdiction	CAPM	DCF	ERP	CE*	Combined
Alberta			x		
Australia	x				
British Columbia					x (CAPM, DCF, and ERP)
California					x (CAPM, DCF, and ERP)
Federal Energy Regulatory Commission					x (CAPM, DCF, and ERP)
Florida					x (CAPM and DCF)
Georgia					x (CAPM, DCF, ERP, and CE)
Illinois					x (CAPM and DCF)
Michigan					x (CAPM, DCF, and ERP)
New York					x (CAPM and DCF)
North Carolina					x (CAPM, DCF, and ERP)
Ohio					x (CAPM and DCF)
Ontario			x		
Pennsylvania					x (CAPM and DCF)
Texas					x (DCF and ERP)
United Kingdom	x				

* CE stands for 'Comparable Earnings' approach.

Sources: S&P Capital IQ, past rate cases.

This results in a base ROE of 9.46%, which is an average of 8.95% (CAPM approach), 10.77% (DCF approach), and 8.65% (ERP approach). The ROE can be updated annually based on the formula described in alternative #5.

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The results from the options presented by LEI are summarized in Figure 46 below.

Figure 46. Summary of ROE options

Alternative #	Description	Base ROE value	LCBF adjustment factor	Corporate bond yield spread adjustment factor
1	Status quo with updated values for base ROE (using ERP approach), base LCBF, base utility bond spreads, and adjustment factors based on current data	8.65%	0.39	0.33
2	Same as #1 except determining base ROE with the discounted cash flow ("DCF") approach instead of the ERP approach	10.77%	0.39	0.33
3	Same as #1 but determination of adjustment factors using multivariate regression analysis	8.65%	0.26	0.13
4	Determination of base ROE using CAPM and adjustment of ROE using CAPM formula parameters	**Average: 8.95%** High: 10.22% Low: 8.23%	N/A	N/A
5	Determination of base ROE using CAPM, with ROE updated using adjustment factors determined in #3	**Average: 8.95%** High: 10.22% Low: 8.23%	0.26	0.13
6	Determination of an average base ROE from CAPM, ERP and DCF methodologies, with updating of ROE based on #3	9.46%	0.26	0.13

Notes:

(i) LEI recommended alternative is highlighted.

(ii) The ROEs allowed by US regulators in 2022 and 2023 rate cases have ranged between 7.85% and 11.45% (Source: S&P Capital IQ).

(iii) For each alternative presented above, the base ROE value and adjustment factors are to be updated after five years; $LCBF_t$ is to be updated annually in October/November of every year as per the methodology described in Figure 26 (latest 30-year GoC bond yield forecasts for the subsequent year from major Canadian banks); $UtilBondSpread_t$ is to be updated annually in October/November of every year based on the 12-month average (data from October of the previous year to September of the current year) for the BVCAUA30 BVLI Index.

Potential alternatives for frequency of updating ROE

The OEB may consider the following options for updating ROE:

1. **Status quo:** ROE is updated annually using a formulaic approach. The prevailing ROE during the year of rate case filing is applicable for the entire IRM period.

2. **Set ROE for the five upcoming years** and update the ROE every five years (for the next five years) based on new data.

4.10.4 Recommendations

LEI prefers to use CAPM for base ROE determination (alternative #5). Beta is a useful indicator in measuring sector-specific risk (which the ERP methodology lacks). Due to the stable returns

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other ways in which the market directly speaks about returns…they (the examples provided) and many other examples – are ways in which the market communicates the returns for investment comparable to utility investments. These sources are therefore useful in testing whether the results of various ERP or other market studies of cost of capital are realistic." [35]

- "If the utility is not a stand-alone entity and/or does not have traded shares, then the Board has no alternative but to look at total rates of return earned by investors in a relevant sample of companies." [36]

- "Expressing the ROE in terms of a premium above…long-term Canada bond yield… does not mean that the initial ROE need be estimated solely using a test or tests that might be defined as ERP tests." [37]

  "No single model is powerful enough to produce 'the number' that will meet the fair return standard. Only by applying a range of tests along with informed judgment can adherence to the fair return standard be ensured." [38]

- "…use of multiple tests. The tests all measure different factors that should be considered in setting a fair return on equity that is consistent with the comparable investment standard, the financial integrity standard and the capital attraction standard. The OEB should not rely on a single method or test." [39]

The Board agrees that **the use of multiple tests to directly and indirectly estimate the ERP is a superior approach to informing its judgment than reliance on a single methodology**. In particular, the Board is concerned that CAPM, as applied by Dr. Booth, does not adequately capture the inverse relationship between the ERP and the long

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[35] Written Comments of the School Energy Coalition. September 2009. pp. 2-3.
[36] Written Comments of Energy Probe Research Foundation. September 8, 2009. p. 14.
[37] McShane, K., Foster Associates, Inc. Written Comments on behalf of the Electricity Distributors Association. September 8, 2009. p. 2.
[38] Ibid. p. 23.
[39] Written Comments of Ontario Power Generation Inc. September 8, 2009. p. 3.

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likelihood of recovery. As such, while energy transition is in process, there is no evidence that energy transition impacts either timing or recovery of cash flows for the regulator utilities, particularly in the upcoming regulatory period. That is 2025 to 2029.

Second, there is no evidence that OEB regulated utilities have been unable to raise capital on reasonable terms.

Third, risk is a function of the activity and not dependent upon the nature of the investor, meaning size, type of organization, or community status are less relevant if within the control of the investor.

Fourth, change in compliance burden associated with LEI recommendations, for example, reporting new debt and equity issuances and mandating cash flow modelling is minimal given such information already exists with the utilities.

Fifth, LEI believes that unique issues associated with First Nations and Indigenous groups are critical, however are best addressed in a separate proceeding. To this end, LEI has previously reviewed case studies associated with First Nations participation in a separate report from 2023.

Sixth, while some experts have emphasized differences between Ontario authorized returns and U.S. authorized returns, it is arguable whether some U.S. regulators are more generous than justified.

Finally, for ROE determination, while LEI believes there is no academic justification averaging multiple

methodologies, we recognize there may be pragmatic reasons for the regulators to do so.

On the top right-hand side of the slide, we explain why LEI's recommendation associated with mandating cash flow modeling for assessment of capital structure is consistent with LEI's views against over-reliance of analyst earnings when determining authorized ROEs. There are a few underlying reasons. First, regulated utilities themselves have more accurate information than analysts. Second, forward cash flow modelling is consistent with analysis that banks would conduct themselves and/or require the utilities to conduct prior to financing. Third, this requirement does not rely on whether external analysts cover a specific company or not. And finally, the objectives are different. That is cash flow modelling is associated with assessment of capital structure, while over-reliance on analyst forecasts is associated with ROE determination.

Moving on to the next section. LEI has expanded upon seven key areas of differences of opinion between LEI's and one or more expert's recommendations. While there are some additional aspects as well, LEI has focused on the most relevant ones for today. These areas include, first, LEI's recommendation associated with mandating scenario analysis for impact on key credit metrics when assessing capital structure. Second, why allowing incremental 50 basis points and authorized ROE for transactions costs associated with equity issuances is not justified.

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With regard to the second bullet point, LEI claims that earnings forecasts tend to overvalue the cost of equity and are constantly overly optimistic. The market has a way of weeding out the chronically-inaccurate forecaster, and short-sellers instill pricing honesty into the market as well by helping deflate bubbles. Moreover, as we noted, all models have shortcomings, including the CAPM. Identifying shortcomings in the CAPM as a less-than-useful financial analysis tool is a cottage industry in academia.[74]

With regard to the third point, LEI claims that the DCF is used for valuing companies but not for determining ROE. That statement is incorrect. The DCF is used to determine a cost-rate or discount rate as the basis for many real-world transactions, though it is sometimes hidden in plain sight. Two examples of the DCF are (1) the so-called Cap Rate used by the real estate industry; and (2) the PE ratio used by investment analysts.

To see this, we can examine the structure of the DCF model and compare it to these popular valuation ratios. The equation for a typical single-stage DCF as used in regulatory proceedings computes a cost of equity using dividends per share as the Expected Cash to Investors, and price per share as the value metric:

$$k_e = \frac{d_0(1+g)}{P} + g$$

[74] As noted by Fama and French:

> *The attraction of the CAPM is its powerfully simple logic and intuitively pleasing predictions about how to measure risk and about the relation between expected return and risk. Unfortunately, perhaps because of its simplicity, the empirical record of the model is poor – poor enough to invalidate the way it is used in applications. The model's empirical problems may reflect true failings. (It is, after all, just a model.) But they may also be due to shortcomings of the empirical tests, most notably, poor proxies for the market portfolio of invested wealth, which plays a central role in the model's predictions. We argue, however, that if the market proxy problem invalidates tests of the model, it also invalidates most applications, which typically borrow the market proxies used in empirical tests.*

Eugine Fama and Kenneth French. "The CAPM: Theory and Evidence." (August 2003.) Amos Tuck School of Business at Dartmouth College Working Paper No. 03-26 and Center for Research in Security Prices (CRSP) University of Chicago Working Paper No. 550.

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In reply to the CEC, FortisBC explains why the CEC's recommended 80-bps downward adjustment is problematic: a) the CEC conceded that Mr. Coyne is already "conservative" in giving 50 percent weighting to historical MRP data; b) the CEC offers no explanation for how it arrived at this 80-bps adjustment; and c) this deduction is inconsistent with financial theory as CAPM analysis is intended to be forward looking. FortisBC states that it is a big and unjustified leap from the CEC's contention that "investors are not exclusively forward-forecast focused" to placing most of the weight on historical data.[443]

In response to RCIA's use of Canadian data only for MRP, FortisBC submits that RCIA's view is flawed because:

- An inference cannot be drawn about relative expected returns of utilities in Canada versus the US from a differential in the countries' MRP;
- The MRP is a measure of potential earnings from investing in the market as a whole, not of relative expected returns; and
- The MRP differential between Canada and the US is due to the indices' different industry weightings, not expectations about utility earnings.

FortisBC also notes Dr. Lesser's support for averaging the Canadian and US MRP when looking at North American proxy groups. FortisBC remarks that this averaging approach is potentially conservative, as it would also be reasonable to only use US MRP since a potential investor in FEI/FBC can, as an alternative, obtain the US market return by investing in the S&P 500. FortisBC recalculates RCIA's downward adjustment based on October 2022 data to be 49 bps instead of the 77 bps calculated by RCIA based on December 2021 data.[444]

Furthermore, FortisBC rejects RCIA's assertion that Mr. Coyne's 50:50 approach biases the resulting MRP upwards. Instead, FortisBC considers that giving 50 percent weight to the historical MRP introduces a downward bias of approximately 180 to 190 bps. RCIA's use of a 75:25 blend further suppresses Mr. Coyne's already conservative 50:50 weighting. This is contrary to the consensus expert evidence that the MRP is intended to be forward looking, and Mr. Coyne is clear that his approach is only a pragmatic response to the controversy surrounding MRPs.

Panel Determination

The MRP is a key input into the CAPM. It represents the premium above the risk-free rate that equity investors demand to compensate them for the extra risk they accept when they invest in riskier assets. As Dr. Lesser notes, the theory underlying the CAPM includes all assets in the market (art, real estate, bonds, stocks, etc.). However, the two experts agree that, while there is no perfect proxy for the market, broad market indices such as the S&P 500 and TSX can be used as proxy for the entire market. Given the integration of North American markets, we accept their view, noting that several of the proxy group companies are included in these indices.

[443] Ibid., pp. 42-43

[444] FortisBC Reply Argument, pp. 64–67.

Since investor expectations are future focussed, we also support the experts' view that it is appropriate to consider forward-looking estimates in determining the MRP. We also accept that using a DCF approach based on the Bloomberg analysts' long-term growth rate estimates of companies included in the broad market indices is acceptable and is a reasonable starting point for estimating expected market returns. We note that Bloomberg explains that its long-term growth forecasts are received directly from contributing analysts and while different analysts apply different methodologies, the long-term growth forecast generally represents an expected annual increase in operating EPS over the company's next full business cycle. In general, these forecasts refer to a period of between three to five years.[445]

A key determinant for the Panel regarding the forward-looking MRPs is assessing the reasonableness of the growth expectation for the period beyond the five years estimated by analysts. The two experts differ on how to approach this issue. The Constant DCF model used by Mr. Coyne assumes the three-to-five-year analyst growth forecasts continue in perpetuity. Dr. Lesser prefers a multi-stage DCF approach that reverts to a GDP growth rate at a later stage. He cautions that relying on a constant growth DCF model is likely to yield estimates of market returns that are unreasonably high and statistically improbable.

The Panel places little weight on the two-stage forward-looking MRP model derived by Mr. Coyne based on his interpretation of Dr. Lesser's preferred approach. In this model, Mr. Coyne reverts to a GDP growth rate after five years. We agree that the MRP estimates produced using this assumption are too low and note that Dr. Lesser also questions the results. However, we object to FortisBC's characterization of this output as "the Lesser CAPM result". Dr. Lesser did not prepare this evidence and we do not know what result Dr. Lesser would have presented if he had been engaged to prepare ROE recommendations for FEI and FBC. Given that we place no reliance on the two-stage MRP estimate prepared by Mr. Coyne based on his interpretation of Dr. Lesser's approach, we agree with FortisBC that we should not be adjusting these results in the manner suggested by BCOAPO.

The Panel acknowledges that the evidence shows that market indices can and have grown by more than GDP over long periods. However, we have no evidence to support that investors expect the MRP to grow at the rates reflective of analyst forecasts in perpetuity. Given the recent market volatility and the downturn in market results over the last few years, it is not unreasonable that investors are expecting a higher return over the next five years. However, the Panel is not convinced that what follows is that investors expect an MRP of 8.0 percent[446] in the future compared to the long-term historical average Canadian and US MRP of 6.6 percent.[447]

Accordingly, the Panel must consider the extent to which it should rely on historic MRPs. While Dr. Lesser prefers a forward-looking MRP estimate, he explains that the economic rationale for using an MRP value based on historical data is that the future will resemble the past and the going-forward MRP will be similar to its average value in the past.[448] Mr. Coyne also prefers a forward approach but uses a 50:50 weighting of historic and forward data, "being sympathetic to those who would argue that 100 years of history means something." The Panel notes Mr. Coyne's concern in December 2021 that the historical MRPs would have underestimated the MRP in the then low interest rate environment due to the inverse relationship between interest rates and

[445] Exhibit B1-9, BCUC IR 39.8.2.
[446] (7.74+8.21)/2.
[447] (5.74+7.46)/2.
[448] Exhibit A2-3, p. 47.

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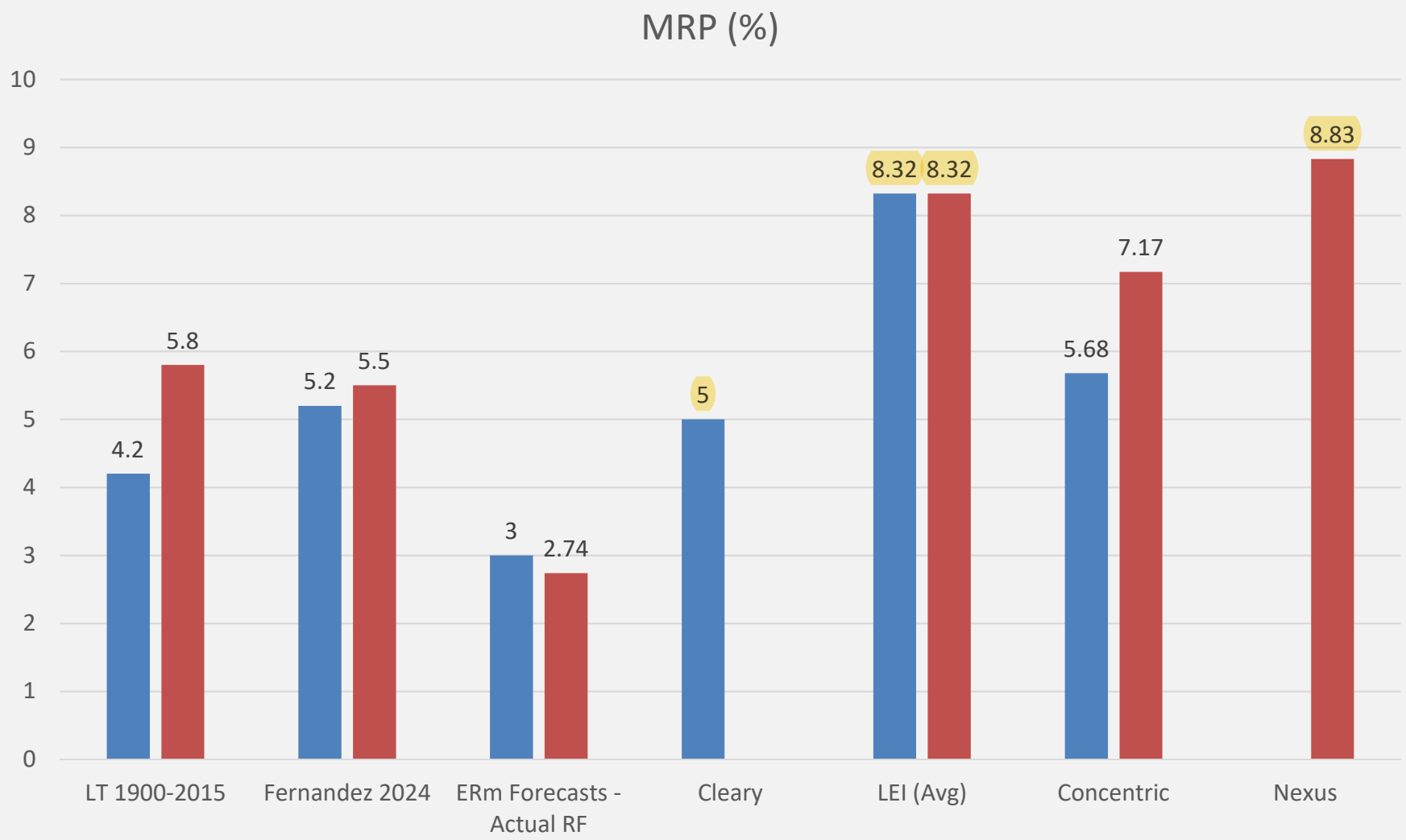
MRP Estimates



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methodology to estimate the MRP. While some practitioners incorporate forward data into their equity return analysis, LEI believes forwards are too short-term and become less liquid in out years. LEI uses historical data, weighted towards more recent market experience.

The two other issues when considering MRP include the period of historical returns to consider and whether to consider MRP based on US or Canadian markets. In Figure 41 below, LEI has presented six options for considering MRP and the resulting CAPM ROE (utilizing a 5-year beta of 0.69 and a risk-free rate of 3.19%).

Figure 41. Six options for determining MRP and the resulting CAPM ROE for each option

MRP variables	Risk-free rate (R_f)	Beta	MRP	ERP (Beta * MRP)	CAPM ROE (R_f + ERP)
1928-2023 S&P 500 total returns - US 10-year treasury bond yields	3.19%	0.69	6.54%	4.53%	**7.72%**
1984-2023 S&P 500 total returns - US 30-year treasury bond yields			7.12%	4.92%	**8.11%**
1994-2023 S&P 500 total returns - US 30-year treasury bond yields			7.28%	5.03%	**8.23%**
2004-2023 S&P 500 total returns - US 30-year treasury bond yields			7.52%	5.20%	**8.39%**
2014-2023 S&P 500 total returns - US 30-year treasury bond yields			10.16%	7.03%	**10.22%**
2004-2023 S&P/TSX total returns - 30-year GoC bond yields			2.81%	1.94%	**5.14%**

Note: LEI's preferred CAPM ROEs are highlighted in green.

Sources: S&P Capital IQ, Statistics Canada, St. Louis Fed, NYU Stern.

LEI believes that CAPM ROE based on Canadian market data (5.14%) does not reflect investors' expected equity returns. The eight major pension funds in Canada (informally known as the Maple 8) allocate only about 25% of their portfolio to domestic Canadian investments, which indicates that investors are more likely to consider their MRP opportunity costs based on the US MRP.[314,315] As such, LEI prefers CAPM determined using US MRP.

Regarding the historical period to consider when determining the appropriate MRP, LEI prefers longer term averages (at least 10 years) as year over year MRP tends to be volatile (see Figure 42 below).

[314] Omers. Terms Explained: Pensions. November 12th, 2021.

[315] The Globe and Mail. Opinion: Pension funds need to seek out more investments in Canada. November 30th, 2023.

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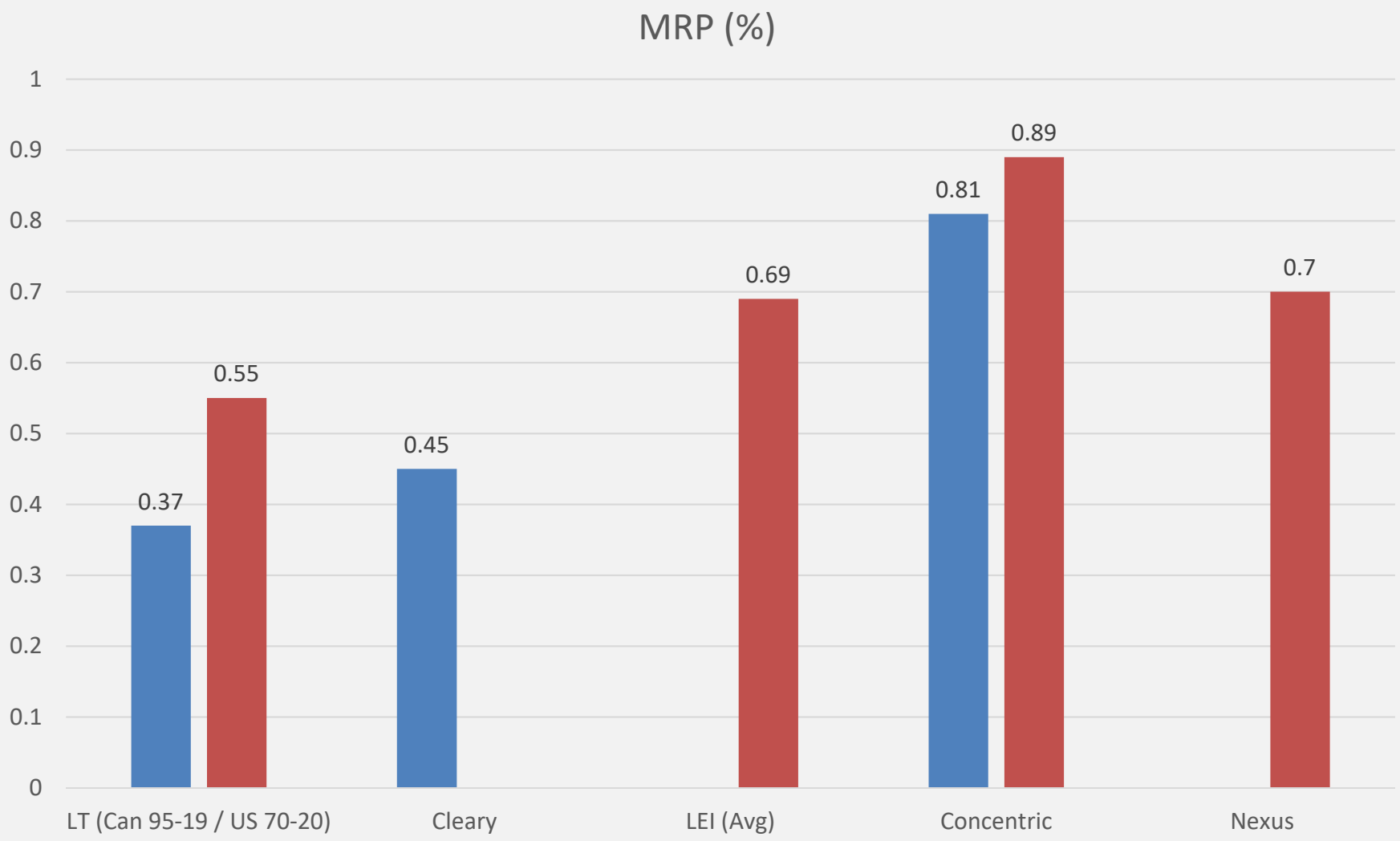
Beta Estimates



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so close to the 0.45 that I have used in previous proceedings confirms the appropriateness of the range that I used and the judgment I employed in determining my beta estimate during the 2013, 2016, 2018, 2021 and 2023 Alberta GCOC Proceedings, and which lies at the mid-point of the range of reasonable beta estimates that I have previously recommended to that Commission during those proceedings.

The top portion of Table 8 provides both weekly and monthly beta estimates for the Canadian utility sample as of December 31, 2023, as well as the seven-year average of beta estimates over the 2016-2023 period.[57] The December 31, 2023 weekly beta estimate average is **0.668**, while the average for monthly betas is **0.582**, both of which are well above the long-term average beta estimate of 0.35 discussed above, and also the 0.45 beta estimate I have used during previous proceedings. The seven-year average weekly betas for the Canadian sample is **0.658**, while the seven-year average monthly beta estimate is **0.513** – with both estimates lying well above the historical average of 0.35. The average of all four beta estimates provided for this sample is **0.60**, well above the long-term average beta estimate of 0.35, and my usual beta estimate of 0.45, which lies slightly above the mid-point of these two figures. In my 2023 Alberta GCOC evidence, I obtained the same beta estimates using December 31, 2022 available Bloomberg data, and the average of the four averages at that time was 0.355, well below the average of 0.60 using December 2023 data. This illustrates that beta "estimates" for companies can change dramatically through time, and therefore why it is appropriate to reference long-term averages and use judgment since beta estimates at any given point in time based on historical data may not represent the best estimates of "future" betas, which is of course what we are trying to estimate. I would further note that during 2023, I continued to use my estimate of 0.45, rather than adjust it downwards based on the average estimate of 0.355, and despite the fact this was almost identical to the long-term average Canadian utility beta estimate. Therefore, I would judge my 0.45 estimate be a conservative and appropriate beta estimate for low-risk regulated operating utilities.

[57] The working papers for Table 8 are appended as Attachment I to my evidence.

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For example, the 'electricity transmission and distribution' sector's share of the rate base relative to the total rate base across the three regulated sectors is 55%.

This approach resulted in a weighted average DCF ROE of 10.77% (as presented in Figure 38 below).

Figure 38. Determination of uniform DCF ROE for OEB-regulated entities

Utility industry sector	Share of 2022 rate base in Ontario	DCF ROE
Electricity transmission and distribution	55%	10.53%
Electricity generation	24%	11.52%
Natural gas distribution	22%	10.56%
Weighted average DCF ROE		**10.77%**

3. Same as #1 but determination of adjustment factors using multivariate regression analysis

The OEB (based on participant submissions in EB-2009-0084) determined the LCBF adjustment factor and the utility bond spread adjustment factor independently using distinct regression analysis. However, the credit spreads and central bank interest rates (which affect government bond yields) are intrinsically linked.[309] In the short run, a rise in Treasury rates is associated with declining credit spreads. However, a rise in Treasury rates may increase credit spreads in the long run. As such, it is reasonable to consider the impacts of BoC bond yields and corporate bond spreads on allowed ROEs within the same regression equation.

Considering the two variables simultaneously (the weighted average ROEs allowed by US regulators for electric and gas utilities as the dependent variable; 30-year GoC government bond yields and Moody's seasoned Baa corporate bond yields as independent variables) using multivariate regression analysis lowers the adjustment factors for each variable, i.e., 0.26 for the LCBF adjustment factor and 0.13 for the utility bond spread adjustment factor. The multivariate regression analysis performed by LEI had an R squared value of 0.61, which indicates that a reasonably high amount of variance in the dependent variable (allowed ROEs) has been explained by the variance in dependent variables since 2001.

4. Determination of base ROE and annual adjustment of ROE using CAPM

The ROE with CAPM is estimated through the following formula:

Return on equity = risk-free rate + (beta x market risk premium) + additional risk premium (optional)

where:

- the *risk-free rate* measures a return available on an investment that is guaranteed and is uncorrelated with risky investments in a market;

[309] Charles S. Morris & Robert Neal & Doug Rolph, 1998. "Credit spreads and interest rates : a cointegration approach," Research Working Paper 98-08, Federal Reserve Bank of Kansas City.

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5. Computation of Low, Average, and High Cost-of-Equity Results in Table 9

Throughout this analysis, we have described our weighted averages as well as our "low" and "high" figures. We average the results of the various methodologies (and datasets) together because no one methodology is likely to be perfect. All methodologies suffer from limitations. It is therefore useful to determine whether and to what extent the computed numbers are coalescing around a useful average.

Table 9 –Nexus Economics Cost of Equity Results (Table 5 Reproduced for Convenience)

		Lower Confidence Limit	Average	Weight [b]	Upper Confidence Limit
1	Single Stage DCF	9.92%	10.92%	**38%**	11.93%
2	Growth Rates - Yahoo Finance	9.76%	10.69%	12%	11.63%
3	Growth Rates - Zacks	9.27%	10.11%	14%	10.95%
4	Growth Rates - CapIQ	10.37%	11.86%	5%	13.36%
5	Growth Rates - StockAnalysis	11.08%	12.22%	8%	13.37%
6	CAPM	9.73%	10.19%	**49%**	10.65%
7	Risk Premium (Authorized Returns)	10.19%	11.09%	**13%**	11.98%
8	**WEIGHTED AVERAGE [b]**	9.86%	**10.58%**	100%	11.31%
9	Transactions Costs	0.50%	0.50%	100%	0.50%
10					
11	Total	10.36%	**11.08%**		11.81%

[a] Results are relevered to a Debt-to-Equity Ratio of 1.50 and taxes of 26.5%.

[b] Weights are determined by the inverse of the standard deviation of the mean result.

Table 9 shows our results based on different methodologies and data sources.[98] Each approach examines multiple firms using multiple datasets, so we seek here to provide ranges of reasonableness. We do so by computing a 95 percent confidence interval on our computed average. In contrast to the mean (or average), which is a point estimate of the unknown parameter value (in this case, the "true" cost of equity), the confidence interval quantifies an interval estimate around that value. The 95 percent confidence interval basically states that if one were to run the experiment multiple times and compute the average in each experiment, and then computed the standard deviation of all of these

[98] Not every data provider offered information on the same firms.

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Panel Determination

The Panel considers that using multiple models recognizes that each of the models has its own strengths and weaknesses and responds differently in different conditions. Relying on more models is especially important at times when the pure market-based models like the DCF and CAPM tend to get whipsawed by volatility in the market. As a case in point, the Risk Premium Model yields ROE results that remain within a very narrow range of about 15 bps throughout the proceeding, whereas up and down movements in the CAPM and multi-stage DCF models have been a lot more pronounced at times.

Therefore, the Panel finds that considerable weight should be given to the use of a Risk Premium Model for the purposes of determining the appropriate ROE for FEI and FBC given the volatility in the market and economic conditions. The specific weight to be accorded the Risk Premium Model in the respective ROEs will be discussed in Section 6.3 (Overall Capital Structure and ROE).

The strengths of the Risk Premium Model outweigh its shortcomings. The Panel finds that a strength of the Risk Premium Model is its theoretical validity and stability. We also find that this model is easy to understand. A weakness of the Risk Premium Model is the circularity of the model, due to its reliance on prior regulatory decisions. However, the Risk Premium Model is not the only model that can be prone to similar circularity risks. For instance, in the DCF model, prior regulatory decisions on the proxy companies' authorized ROEs are likely to influence the inputs to the model such as utility stock prices. Consequently, the Panel considers that circularity concerns alone do not justify eliminating reliance on the Risk Premium Model, or any particular model, for determining the appropriate ROE for FEI and FBC. Instead, it is a factor in the overall consideration of model results.

Mr. Coyne states that he agrees with FERC that the benefits of the Risk Premium Model outweigh its weaknesses and the Risk Premium Model provides a stabilizing influence when averaged with the CAPM and DCF model, which can be especially attractive in the presence of volatile market and economic conditions. Although FERC's determinations are not binding on the BCUC, the Panel notes that FERC has recognized the theoretical validity and value of the Risk Premium Model, as it has adopted that model along with the CAPM and DCF model, which it weights equally for determining the cost of capital for regulated electric transmission companies in the US.

Having determined to give weight to the Risk Premium Model, the Panel must now decide what is the appropriate bond yield to use, whether current or forecast. To be consistent with its previous determination on the risk-free rate used in the CAPM (see Section 5.2.1), the Panel will also rely on the forecast for the yield on 30-year treasury bond, specifically the results using the five-year forecast:

Table 33: Mr. Coyne's Risk Premium Results - October 2022[626]

	Canadian Utilities	U.S. Gas Utilities	North American Gas Utilities	U.S. Electric Utilities	North American Electric Utilities
October 2022[627]	n.a.	10.12%	10.12%	10.16%	10.16%

[626] Information in the table is compiled from the referenced footnotes within the table.

[627] Exhibit B1-50, Figures 3 and 4, p. 6

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Figure 69. Summary output – Allowed ROE vs US 30-year Treasury bond yield & Moody's Baa Corporate bond yield

Regression Statistics	
Multiple R	0.783710797
R Square	0.614202614
Adjusted R Square	0.60553301
Standard Error	0.353648217
Observations	92

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	17.72088188	8.860441	70.84552	3.91731E-19
Residual	89	11.13096844	0.125067		
Total	91	28.85185032			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	8.41643924	0.171838025	48.97891	3.69E-66	8.075000744	8.757877736	8.075000744	8.757877736
US 30-year Treasury	0.259045098	0.068538952	3.779531	0.000284	0.12285966	0.395230536	0.12285966	0.395230536
Moody's Baa Corp	0.128829882	0.059719152	2.157262	0.03368	0.010169199	0.247490564	0.010169199	0.247490564

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ONTARIO ENERGY BOARD

NOTICE OF A RATE HEARING

The Ontario Energy Board is commencing a hearing to review the cost of capital rate-regulated electricity and gas utilities can recover through rates.

The Ontario Energy Board (OEB) is commencing a hearing on its own motion to consider the methodology for determining the values of the cost of capital parameters and deemed capital structure to be used to set rates for electricity transmitters, electricity distributors, natural gas utilities, and Ontario Power Generation Inc. The methodology for determining the OEB's prescribed interest rates and matters related to the OEB's Cloud Computing Deferral Account will also be considered, including what type of interest rate, if any, should apply to this deferral account.

The outcome of the hearing will affect the rates that customers – including residential and business customers – pay for electricity and gas service.

The OEB annually publishes its approved cost of capital parameters on its website. The OEB last reviewed its cost of capital methodology in 2009 through its *Report of the Board on the Cost of Capital for Ontario's Regulated Utilities*, December 11, 2009 (EB-2009-0084). An OEB staff report (Staff Report) regarding a review of the cost of capital policy was published on January 14, 2016 (EB-2009-0084). OEB staff concluded in the Staff Report that the methodology adopted in late 2009 had worked as intended.

When the OEB reviews a cost-based rates application, many costs and inputs are included in that review. The cost of capital is only one of those costs. In any given year, about 10-20% of Ontario's utilities apply for such a cost-based review.

YOU SHOULD KNOW

There are three types of OEB hearings: oral, electronic and written. The OEB plans to hold an oral hearing with details to be determined later.

During this hearing, we will hear questions and arguments from participants. After the hearing, a decision will be made regarding whether changes should be made to the OEB's current approach to determining the allowable cost of capital for utilities. Utilities, customers, and other interested stakeholders may wish to participate in the hearing.

HAVE YOUR SAY

You have the right to information about this hearing and to participate in the process. Visit **www.oeb.ca/notice** and use file number **EB-2024-0063** to:

- File a letter with your comments
- Apply to become an intervenor

IMPORTANT DATES

On or before **March 25, 2024**:

- Rate-regulated utilities that wish to participate in this proceeding must notify the OEB
- Other stakeholders that wish to participate must apply to be an intervenor

If you do not, the hearing will move forward without you, and you will not receive any further notice of the proceeding.

PRIVACY

If you write a letter of comment, your name and the content of your letter will be put on the public record and the OEB website. If you are a business or if you apply to become an intervenor, all the information you file will be on the OEB website.

LEARN MORE

Ontario Energy Board
/TTY: 1 877-632-2727
Monday - Friday: 8:30 AM - 5:00 PM
oeb.ca/notice

This hearing will be held under sections 36, 78 and 78.1 of the ***Ontario Energy Board Act, 1998.***

Ce document est aussi disponible en français.

Ontario Energy Board

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1.0 INTRODUCTION

1.1 Background

The British Columbia Utilities Commission (BCUC), pursuant to section 59(5)(b) of the *Utilities Commission Act* (UCA) is responsible for ensuring that shareholders of the utilities it regulates are afforded a reasonable opportunity to earn a fair return on their invested capital.

On October 11, 2012, the BCUC established that FortisBC Energy Inc. (FEI) would serve as the benchmark (Benchmark Utility) for any other utility in British Columbia (BC) that uses a Benchmark Utility to set rates.[2] FEI's common equity component was set at 38.5 percent and its return on equity (ROE) was set at 8.75 percent, effective January 1, 2013.[3] On March 25, 2014, the BCUC set the common equity component or equity ratio of the capital structure and equity risk premium over the Benchmark Utility for other regulated utilities in the province.[4] FortisBC Inc. (FBC) was one of the regulated utilities and a full review of its capital structure and equity risk premium was undertaken as part of that proceeding.[5] The BCUC determined that an equity ratio of 40 percent and an equity risk premium of 40 basis points (bps)[6] over the Benchmark Utility for FBC was appropriate.[7] Subsequently, on August 10, 2016, the BCUC reaffirmed FEI's cost of capital.[8] The BCUC also suspended use of the automatic adjustment mechanism formula previously approved in 2013.

By letter dated January 18, 2021, the BCUC noted that significant time had passed since the BCUC's 2013 and 2016 cost of capital reviews and over that period, changes have occurred in financial markets, and pursuant to section 82 of the UCA, issued a Notice of Initiating a Generic Cost of Capital (GCOC) Proceeding.

1.2 Purpose and Scope of the Generic Cost of Capital Proceeding

Purpose of the Proceeding

The purpose of the GCOC proceeding is to establish a method to determine the appropriate cost of capital for regulated utilities in BC[9], as well as to review the appropriateness of continuing the use of a Benchmark Utility, and if so, the appropriate cost of capital for the benchmark.

[2] BCUC 2013 GCOC, Order G-148-12 with Reasons for Decision dated October 11, 2012, Directive 1.
[3] BCUC 2013 GCOC Stage 1, Order G-75-13 and Decision dated May 10, 2013, Directives 1 and 2.
[4] BCUC 2013 GCOC Stage 2, Order G-47-14 and Decision dated March 25, 2014 (2014 Decision), Directives 1 to 6.
[5] 2014 Decision, pp. 4, 60–87.
[6] 1 basis point = 0.01 percent.
[7] 2014 Decision, p. 86.
[8] FEI Application for its Common Equity Component and Return on Equity for 2016 (FEI 2016 COC), Order G-129-16 and Decision dated August 10, 2016 (2016 Decision), Directives 1 and 2.
[9] Order G-156-21 with Reasons for Decision.

Two-Stage Proceeding

By Order G-156-21, the BCUC determined that a two-stage proceeding to establish public utilities' cost of capital was appropriate for the GCOC proceeding, where Stage 1 sets the benchmark ROE (Benchmark ROE) based on a Benchmark Utility, and Stage 2 uses a generic methodology for each utility to determine its unique cost of capital in reference to the Benchmark Utility.[10] Hereafter, Stage 1 refers to the first stage of the GCOC proceeding and Stage 2 refers to the second stage of the same proceeding.

By Order G-205-21, the BCUC determined that the review of deferral account financing costs, as well as any other matters that may arise out of Stage 1 and Stage 2 should be within the scope of the GCOC proceeding, after the completion of Stage 2.[11]

By Order G-281-21, the BCUC found that it was appropriate and efficient to first determine the cost of capital for FEI and FBC, collectively FortisBC, as both utilities are the largest investor-owned natural gas and electric utilities, respectively, in BC.[12] Pursuant to Order G-281-21, and as amended by Order G-288-21, FortisBC filed its evidence for FEI and FBC.[13] By Order G-106-22, the BCUC confirmed that the decision on FEI and FBC's capital structure and ROE will be determined first in Stage 1, and then the BCUC would move onto reviewing which, if any, of the utilities will be the Benchmark Utility in Stage 2.[14]

Order G-106-22 also sets out the scope of Stage 1 as follows:[15]

1. The determination of the allowed ROE and deemed capital structure of FEI and FBC, and the effective dates for which FEI and FBC's cost of capital will take effect.

2. Whether re-establishment of a formulaic ROE automatic adjustment mechanism (AAM) is warranted. If a return to the use of a formulaic ROE AAM is warranted, then:

    a) The specifications of the ROE AAM formula.

    b) The frequency that the ROE AAM will apply (i.e. annually or some other frequency) and to whom the ROE AAM will apply.

    c) The date for which the ROE AAM will take effect.

3. The criteria, off-ramps, or other triggers to warrant a future cost of capital proceeding.

4. Any other items that may arise during the proceeding to be considered in Stage 1.

[10] Order G-156-21 with Reasons for Decision dated May 21, 2021
[11] Order G-205-21 with Reasons for Decision dated July 7, 2021
[12] Order G-281-21 with Reasons for Decision dated September 24, 2021, p.6. , Order G-156-21 with Reasons for Decision dated May 21, 2021, Appendix A, p. 7
[13] Exhibit B1-8, p. 1.
[14] Order G-106-22 dated April 21, 2022.
[15] Ibid.

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Overall Determinations

The Panel finds that the appropriate way to account for required financial flexibility is in the context of determining the appropriate capital structure.

The Panel accepts that any reasonable and prudently incurred flotation costs incurred by a public utility are recoverable from ratepayers, over and above the approved costs of capital. However, there is no evidence before the Panel that FEI or FBC incurs any flotation costs and therefore there are no costs to recover. FEI and FBC can request recovery of actual costs incurred by the parent company by providing applicable invoices or other supporting documentation from the parent when FEI and FBC issue additional equity. Those expenditures, if and as incurred, can be considered for recovery from the ratepayers of FEI or FBC through review and approval as part of each utility's revenue requirement process.

The Panel finds that 45.0 percent equity thickness for FEI meets the comparable investment and capital attraction requirements in the Fair Return Standard because 45.0 percent is premised on FEI's proxy group and supported by the Panel's assessment of FEI's business risk.

The Panel finds that a modest upward adjustment of 1.0 percent for financial leverage and flexibility for FBC is warranted to conform with the Fair Return Standard. The Panel determines that the deemed equity component for FBC is 41.0 percent.

Based on the evidence examined and submissions received in Stage 1 of the GCOC proceeding, the Panel determines the following equity component in the deemed capital structure and allowed ROE will meet the Fair Return Standard:

- For FEI, a deemed equity component of 45.0 percent and an allowed ROE of 9.65 percent; and
- For FBC, a deemed equity component of 41.0 percent and an allowed ROE of 9.65 percent.

Effective Date

The Panel determines that the deemed capital structure and allowed ROE for FEI and FBC as set out in this decision be implemented, effective January 1, 2023. Each of FEI and FBC is directed to file, within 30 days of the date of this decision, a compliance filing for January 1, 2023 permanent rates, and if applicable, an evidentiary update for each utility's 2024 Annual Review proceedings to reflect and implement the deemed capital structure and allowed ROE as approved.

FEI is the current benchmark (Benchmark Utility) for other utilities in BC that use a Benchmark Utility to set their rates. The Panel notes it would be unfair for these utilities to retrospectively collect or refund customer monies without an appropriate mechanism for doing so or without adequate notice to ratepayers. However, while each utility's situation may be unique, some balance must be factored in to ensure consistency and fair treatment amongst all utilities. In terms of specific mechanism, the Panel considers that the benefits of establishing interim rates for all other utilities that use a Benchmark Utility to set their capital structure, along with equity return, outweigh other mechanisms.