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

DR. SEAN CLEARY, CFA

(October 10, 2024)

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ONTARIO ENERGY BOARD

2024 REVIEW OF COST OF CAPITAL PARAMETERS AND DEEMED CAPITAL STRUCTURE

EB-2024-0063

Evidence of Dr. Sean Cleary, CFA Professor of Finance

Sponsored by Industrial Gas Users Association (IGUA) and

Association of Major Power Consumers in Ontario (AMPCO)

July 19, 2024

2 EXECUTIVE SUMMARY

For ease of reference, I have organized Sections 2 and 3 of my evidence in alignment with the structure used by LEI in its evidence. This section provides a summary of my responses to the 22 issues identified in the OEB's Final Issues List for the Generic Proceeding, which compares my recommendations to the status quo and also to the recommendations of LEI, who provided its analysis of these issues on behalf of the OEB.

My analysis is consistent with the principles advocated by LEI in determining its recommendations, which are stated on page 12 of its evidence as copied below[1]:

1. ***Meeting the FRS***, which is a legal requirement;
2. ***Simple to administer relative to the status quo***, i.e., the costs (if any) of transitioning away from the status quo and administering the recommended alternative are reasonable;
3. ***Transitioning away from the status quo only if the associated benefits are material*** as there is limited merit in modifying aspects of the methodology that have worked well;
4. ***Fairness in approach to consumers and utilities***, consistent with the OEB's mission and mandate, to ensure efficient investments; and
5. ***Predictability and transparency*** in the recommended approach to ensure that the outcomes from the proposed methodology are relatively stable over a long-term time horizon.

LEI notes on page 12 that it "proposes evolutionary rather than revolutionary changes in response to the issues identified in the Generic Proceeding." I would suggest that my recommendations would also be considered evolutionary, and I am in agreement with several of LEI's recommendations and existing OEB practices. I do provide recommendations that differ from (or build upon) LEI's recommendations and existing OEB practice on some of the issues – particularly with respect to dealing with the OEB's current ROE methodology, including an updated estimate of the base ROE, as well as suggesting other minor refinements to the existing ROE methodology. Accordingly, I will devote more attention in my evidence

[1] Where FRS refers to the Fair Return Standard.

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Ontario Energy Board

EB-2009-0084

Report of the Board

on the Cost of Capital for Ontario's Regulated Utilities

December 11, 2009

results of the formulaic ROE mechanism. The use of an inappropriate initial ROE will either inflate or understate subsequent rate determinations;

- The present formulaic ROE generally relies predominantly on the ERP method to the exclusion of other methods;
- Adjustment for the impact of timing differences for utilities with different year-ends is a challenge; and
- The Board's ability to make discretionary adjustments to a utility's return for the purpose of creating incentives for particular behaviours or sending signals to the marketplace may be restricted. [25]

Notwithstanding these concerns, the Board is of the view that it is appropriate to continue to use a formulaic approach to determine the equity cost of capital and that the overall advantages of the approach outweigh potential disadvantages.

An Empirical Foundation

The essential elements of a formulaic approach must be empirically derived – the initial ROE, implied ERP and the adjustment factor are determined by the Board based on empirical analysis. It is essential that sufficient empirical analysis be provided periodically to ensure that assumed relationships are not misspecified. This includes the construction and application of a framework to evaluate the degree of comparability between rate regulated natural gas distribution and electricity distribution and transmission utilities in Canada and the United States.

To be clear, the approach to be used by the Board in setting the essential elements of a formula-based rate of ROE (i.e., base ROE, formula terms and adjustment factors) will be based on "economic theory and empirically derived from objective, data-based analysis."[26] As such, it is not sufficient for a formulaic approach for determining ROE to produce a

[25] Ibid. p. 7.
[26] Ontario Energy Board. Report of the Board on 3rd Generation Incentive Regulation. July 14, 2008. p. 19

numerical result that satisfies the FRS on average, over time. The Board is of the view that each time a formulaic approach is used to calculate an allowed ROE it must generate a result that meets the FRS, as determined by the Board using its experience and informed judgment.

This principle is supported by the *Hope* decision, which states: "Under the statutory standard of 'just and reasonable' it is the result reached not the method which is controlling…"[27]

[27] Federal Power Commission v. Hope Natural Gas 320 U.S. 591 (1944). p. 602

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significantly more accurate forecasts of actual 30-year yields in the subsequent period than using forecasts (as discussed in greater detail in response to Issue #7). The evidence in Appendix A shows an **upward bias** in forecasts of **about 0.4%**, which is substantial. In contrast, the average forecast yields using the previous actual yields at the start of the period would have been unbiased on average.

Based on this evidence, I recommend that rather than using forecasts for LCBF, the Board should use the actual prevailing bond yields, and I further recommend using the actual prevailing rate as of September 30, 2024, which should be a better estimate of future rates than using an average for the month of September, as discussed in my response to Issue #7. This approach also has the added benefit that it is easier to implement, since it does not require obtaining yield forecasts, estimating the spread between 10- and 30-year Canada yields, or even obtaining bond yield data for an entire month. As mentioned previously, estimating the spread between 10- and 30-year Canada yields is not a trivial matter and is fraught with uncertainty. For example, while this spread averaged +0.38% over the 2004-2023 period, it has been as low as -0.23% and as high as +0.81%, and sat at -0.09% on June 5, 2024.

3.10.3 UtilBondSpread

The OEB currently estimates UtilBondSpread as the average spread between A-rated utility yields and 30-year Canada yields during the September previous to the test year. LEI supports maintaining this approach, but suggests using a 12-month trailing average, instead of a one-month average.

I agree that this variable should continue to be included in the ROE formula; however, I recommend that this spread would be best determined using the actual spread as of September 30th, rather than using an average for the month (or for the previous 12 months). It is always preferable to use the most timely estimate of current capital market conditions as is feasible since this spread, like most capital market factors, can change through time. For example, while the average spread over the 2003-2024 period was 1.40% (as shown in Figure 3 of my evidence), it fluctuated from 0.76% to 3.05% over the period, and sat at 1.38% as of June 5, 2024. In particular, something(s) could have happened during the most recent month (or months) that could either ease (or elevate) bond investors' risk assessments, which would be reflected in lower (or higher) yield spreads, and hence spreads existing before this unexpected event (or events) would not be as representative as the prevailing spreads at the end of the

month, **which reflect the most recent capital market conditions**. This approach also has the added benefit that it is easier to implement, since it would not require obtaining utility and government bond yield data for an entire month.

3.10.4 LCBF and UtilBondSpread Adjustment Factors

Currently the OEB uses an adjustment factor of 0.5 for both the LCBF and UtilBondSpread variables in its ROE equation. LEI recommends changing these adjustment factors to 0.26 for LCBF and to 0.13 for UtilBondSpread. LEI bases its recommendation on the results of a multivariate regression that it describes on page 116 of its evidence as using "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." However, Appendix B of LEI's evidence indicates that U.S. 30-year Treasury yields were used in the regression, and not 30-year GoC yields – so it is not clear to me which variable was actually used.

Regardless of whether LEI's regression specification includes long-term Canada or U.S. government bond yields in the regression, the results of this regression are not relevant with respect to current capital market conditions in Canada that are intended to be reflected in the OEB's ROE formula, as captured by changes in LCBF and UtilBondSpread, and therefore should not be considered.

The regression specification is flawed by design since allowed ROEs in U.S. jurisdictions do not have a direct relationship with changes in capital market conditions in Canada. These allowed ROEs do not change frequently (only during ROE reviews or annually at best if the jurisdiction uses a formula), **unlike the LCBF and UtilBondSpread factors which change daily**. Further, allowed ROEs for U.S. utilities have no direct relationship to Canada government yields (which often differ from U.S. yields as they do today) or with Canadian yield spreads. U.S. allowed ROEs are more likely to be affected by changes in U.S. yields and U.S. yield spreads – although even this relationship is difficult to estimate (since they do not necessarily accurately reflect the actual required return on U.S. utilities' cost of equity (Ke) as discussed in Section 5.1 of my evidence). As the AUC stated in Alberta 2018 GCOC Decision 22570-D01-2018, para. 393 (emphases added): "In the Commission's view, although observable, the **ROEs approved for the U.S. utilities are not strictly market data**."

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ONTARIO ENERGY BOARD

FILE NO.:	**EB-2022-0200**	**Enbridge Gas Inc.**

VOLUME:	**10**	
DATE:	**July 27, 2023**	
BEFORE:	**Patrick Moran**	**Presiding Commissioner**
	Allison Duff	**Commissioner**
	Emad Elsayed	**Commissioner**

DR. CLEARY: First of all, good morning, Mr. Chair and other Board Members as well as members of the audience. It is my pleasure to be here in person this morning. It worked out.

So, first of all, I begin by noting that it has been noted by several other parties that, regarding step 1 of proving that a significant change in company business and financial risk that was EGI's hurdle to jump, if you will, I don't believe that they satisfied, and the debt-rating agencies don't believe so. Their cost of debt in the public debt markets does not reflect this, nor do other comments in the credit -- or, sorry, nor do their credit metrics, their forecast credit metrics that were used from EGI, itself. In its direct evidence, Concentric asserted that my analysis was narrow and backward looking.

In fact, I would argue just the opposite, that EGI's evidence is narrow and backward-looking. They rely primarily on awarded equity ratios in other jurisdictions that happened historically, in some cases several years ago. They do not pay enough attention to current market-based information as I do, and, in fact, I would suggest my evidence is forward-looking analysis. They rely on the fair return standard, particularly comparable investment standard, and suggest, in effect, that EGI should get the same average awarded equity ratio that is provided to other utilities in North America, without making any adjustments for the risks that those utilities may have relative to EGI. Nowhere in the fair return standard does it say that

operating companies must receive the same equity ratio as others to satisfy that fair return standard.

In addition, while taking great pains to construct their proxy groups and justify them, and mentioning right up front that operating companies are the most representative, in fact, most of their analysis weights much heavier on holding companies than operating companies. And also, in fact, several of their analyses used companies -- or utilities, I should say -- that were specifically excluded from their proxy groups. For example, one of their analyses, in figure 38, provides data for 55 U.S. operating companies, 52 of which were not included in either of their proxy groups, and it included only three of them.

This is further evidenced when they do their credit metric analysis; again, back to that point that opcos are the most relevant, which I agree with, and their credit metric analysis used 13 of the 14 holding companies in their sample, zero of the 10 operating companies in Canada, and seven of 10 in the U.S.; so seven of 20 holdcos and 13 of 14 operating cos.

In their direct examination the other day -- Monday or Tuesday; sorry, the days are mixed up for me -- they suggested I ignore information regarding comparable utilities and suggest that I advocate making no reference to them. This is not true. First of all, I point out the flaw in the whole approach of just merely looking at equity ratios that are awarded in other jurisdictions without

considering the record at the time, the risk facing the utilities, the operations of those utilities, and market conditions.

And, second of all, I point out that there are flaws and different risk characteristics in all of their proxy groups relative to EGI. In particular, the first three are much riskier. You can take the information, but it must be adjusted for the fact that they have higher risk. And their fourth one, the most promising group, the Canadian opco group, includes 10 companies, but seven of them are so much smaller than EGI that they require an adjustment for that risk, as has been argued be Mr. Coyne in the New Brunswick proceedings.

Further on, they suggest that, when I don't look at comparators, I then can't examine the three prongs of the fair return standard. And I would suggest that, if all we needed to do to satisfy the fair return standard was to look at awarded equity ratios in other jurisdictions, there would be no need for proceedings such as these to look at market conditions, to look at the operations of EGI, and so on and so forth, the things that are done in these hearings to determine an appropriate equity ratio and an appropriate ROE ratio; or, sorry, allowed ROE in some cases.

So beyond looking at the equity ratios, they provide some other analyses, but most of these, I find, are flawed. They ignore the fact that Enbridge Gas borrows at slightly below the A-rated utility average yield, which I believe -- well, not "believe" -- definitely shows that they have no

problem attracting capital and that they are on par with comparable investments.

These yields, these market-determined yields, are based on the assumption that their equity ratio would remain at 36 percent, as are the credit metrics used by S&P and also those provided by EGI. So there seems to be no concern there.

Another thing that they mentioned in their direct was my focus on debt reports and debt yield, and that I ignore equity investors. And they insinuate that they operate in two parallel universes; equity investors and debt investors. I find that totally untrue. Both equity and debt investors look at forward-looking information, try to assess the future cash flows of a company, the growth opportunities, and risks facing the company. I will agree that they do have different focuses, with debt investors focusing more on the downside. Equity investors focus on the downside, but also more emphasis on the upside, but they use the same kind of information. They assess the risk of the parties.

And, also, I would point out that the OEB formula to estimate the allowed ROE is supposed to proxy the cost of equity, and it includes, essentially, changes in the cost of debt. Because the first component is the risk-free rate -- the government yields, if you will -- and the second component is the A-rated utility yield spread. If you add those two together, that is the A-rated yield; the government yield plus the A-rated spread. So the fact that

the OEB recognizes that the cost of equity goes up or down, with changes in the cost of debt to the utility, reflects that close relationship between the cost of debt and cost of equity.

I have couple of other things here. One is they suggest that I focus only on the short term, and not the long term. That is incorrect. I do acknowledge the importance of the long term, as do capital providers. And I totally acknowledge that point. The point that Concentric fails to recognize is that the capital providers, the debt markets, and the equity markets also have already looked at the long term, and those are reflected in today's current rate-borrowing rates for Enbridge Gas, so it's reasonable to assume that they have considered the energy transition risk and that it is already reflected in Enbridge Gas's cost of debt.

Finally, there some other financial analyses that I have issues with. For example, they suggest that Canadian utilities are trading at a greater discount than U.S. utilities today versus in 2010. Well, that is not true. And also they fail to account the overall market movements, where the Canadian market -- equity returns and the Canadian market were 57 percent lower than in the U.S. over that period, while the returns to Canadian utilities were only 20 percent lower. So, if anything, the Canadian utilities fared better relative to U.S. utilities.

Finally, one of the other things that they made a big point of was my analysis of the ROEs for operating

companies versus holding companies. And I do recognize that there are issues there, particularly the accounting issues in comparing the ROEs of operating companies to holding companies. And I recognize that. And, if anything, that supports my opinion that holding companies are poor comparators.

The second thing is they seem to not have the same concern when they look at the credit metrics, because, as mentioned, in their credit metrics, 13 of the 20 companies they look at are, in fact, holding companies. So they seem to disregard the accounting differences when they are looking at the credit metrics, so I am not quite sure why it's an issue when looking at the ROEs and not when looking at the others.

The other thing that they suggest is that, just because a company earns above its allowed ROE, in the case of EGI, which has done so consistently and, on average, 1 percent, they suggest that doesn't indicate anything about the risk of the company, and suggest that doesn't suggest that they are less risky than a company that continually earns less than an allowed ROE; or let's just call it a non-utility and say, "Some expected return."

Well, I think any investor would recognize that investing in a business that continually earns above an expected return, or some high-water mark, and less volatility in those earnings, would be less risky than investing in a company that continually earns below that high-water mark or expected return with greater volatility.

You could think of just buying a small business yourself, and you certainly would consider one that earns above the expected to be less risky.

So, to conclude, in contrast to Concentric's simple reliance on historically awarded equity ratios, I would argue that my evidence is forward-looking, based on available financial market information, and my analysis suggests that it is not necessary to increase EGI's equity ratio of 36 percent, which comfortably satisfies all three legs of the fair return standard. Thank you.

MR. MONDROW: Thank you, Dr. Cleary. Mr. Chair, Dr. Cleary is available for cross-examination.

MR. MORAN: Thank you, Mr. Mondrow. Up first is FRPO, Mr. Quinn.

MR. QUINN: Yes.

MR. MORAN: Mr. Quinn, you're on mute.

CROSS-EXAMINATION BY MR. QUINN:

MR. QUINN: Okay. Thank you, I apologize. I am working remotely, and if I turn off my camera, I have already had a little bit of instability. But I trust that I will just turn off my camera and continue the cross, from there, if that is satisfactory.

Good morning to you, Dr. Cleary. My name is Dwayne Quinn, and I am here on behalf of FRPO. And I just want to start by getting some clarity on a matter that I posed to Concentric earlier this week, and it is on the matter of Enbridge's non-utility storage and the effect that that would have on the company's perceived risk as far as

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DR. SEAN CLEARY, CFA

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Areas of Interest

Research: Empirical studies in sustainable finance, corporate finance and investments.
Teaching: Sustainable Finance, Investments, Business Finance and Corporate Finance. I have also taught numerous courses and delivered seminars in many preparatory programs designed to prepare students to write exams for all three levels of the CFA program and the CSC for over 10 years.

Education

University of Toronto	Ph.D., Finance, 1993 - January, 1998
Saint Mary's University	M.B.A., Finance, 1987-1989
Saint Francis Xavier University	B.Ed., Secondary, 1983-84
Acadia University	B.A., Economics, 1979-1983

Career Experience

Queen's University	Professor of Finance Founding Chair, Institute of Sustainable Finance (July 2018-December 2023); Director of Master of Finance (July 2008 – June 2014; January 2017- December 2022)
Saint Mary's University	Associate Dean and Pengrowth Nova Scotia Professor in Petroleum Financial Management: (July 2007 – June 2008) Professor: (September 2006 – June 2007) Associate Professor: Finance (September 2000 - June 2001, July 2002 – August 2006) Assistant Professor: Finance (July 1998 - August 2000) Lecturer: Finance and Statistics, (1990-1993, Full Time)
York University	Assistant Professor: Finance (July 2001 – June 2002)
The University of Lethbridge	Assistant Professor: Finance (1997- 1998, Full Time)
The University of Toronto	Lecturer: Business Finance (Undergraduate and MBA) (1994-1997, Part Time)
Ryerson University	Lecturer: Investment Finance (1994-1997, Full Time)
WSC Investment Services	Instructor for CSC and CFA Seminars and Prepare Course Materials and Deliver Seminars for various professional organizations; (1996-present, Part Time)
Royal Bank of Canada	Commercial Lender; (1989-1990, Full Time)

Expert Witness Experience:

February-October 2023 – Industrial Gas Users Association (IGUA) of Ontario
Preparing evidence regarding an appropriate equity ratio for Enbridge Gas.

July 2022-October 2023 – Utilities Consumer Advocate (UCA) of Alberta
Prepared evidence regarding an appropriate ROE and capital structure for regulated Alberta utilities.

September 2019-April 2020 – Utilities Consumer Advocate (UCA) of Alberta
Prepared evidence regarding an appropriate ROE and capital structure for regulated Alberta utilities.

July-November 2018 – Newfoundland Consumer Advocate
Prepared evidence regarding an appropriate capital structure for Newfoundland Power.

September 2017-June 2018 – Utilities Consumer Advocate (UCA) of Alberta
Prepared and testified regarding an appropriate ROE and capital structure for regulated Alberta utilities.

April 2017-September 2018 – Utilities Consumer Advocate (UCA) of Alberta
Preparing evidence and testifying regarding appropriate risk margins for commodity risk for regulated Alberta utilities.

July-October 2016 – Manitoba Public Insurance
Prepared a report and testified regarding interest rate forecasts.

September 2015-July 2016 – Utilities Consumer Advocate (UCA) of Alberta
Prepared and testified regarding an appropriate ROE and capital structure for regulated Alberta utilities.

December 2015-June 2016 – Newfoundland Consumer Advocate
Prepared and testified regarding an appropriate capital structure for Newfoundland Power.

April-November 2014 – Utilities Consumer Advocate (UCA) of Alberta
Prepared and testified regarding appropriate risk margins for commodity risk for regulated Alberta utilities.

December 2013-August 2014 – Utilities Consumer Advocate (UCA) of Alberta
Prepared and testified regarding an appropriate ROE and capital structure for regulated Alberta utilities.

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ASSOCIATION OF MAJOR POWER CONSUMERS IN ONTARIO/INDUSTRIAL GAS USERS ASSOCIATION (Dr. Sean Cleary)

Answer to Interrogatory from Ontario Energy Association (OEA)

Reference:

Exhibit M4
Pages 1-4

Preamble:

I provided expert evidence sponsored by the Industrial Gas Users Association (IGUA) in the 2023 EGI rebasing proceedings (EB-2022-0200). I have served as an expert witness on behalf of the Office of the Utilities Consumer Advocate of Alberta on several occasions including generic cost of capital proceedings in 2013-2014 (Proceeding ID 2191), 2015-2016 (Proceeding ID 20622), 2018 (Proceeding ID 22570), 2019-20 (Proceeding ID 24110), 2022-23 (Proceeding ID 27084), as well as the generic regulated rate option proceeding (Proceeding ID 2941) in 2014 and the EPCOR Energy Alberta 2018-2021 Energy Price Setting Plan4 proceeding (Proceeding ID 2357) in 2017. I also prepared evidence on behalf of the Newfoundland Consumer Advocate in cost of capital hearings in 2015-2016, and in 2018.

Question:

a. For each proceeding where Dr. Cleary developed recommendations for ROE and /or capital structure referenced above, please provide a table with Dr. Cleary's recommendations and the ultimate decision by the regulator.

Response:

Dr. Cleary has provided a table below that shows these Decisions, his recommendations, the recommendations of other experts involved in those proceedings, and the mid-point and average of those recommendations. This table shows that the recommendations have generally displayed very large ranges, with the final decisions usually being very close to the mid-points and/or averages of these ranges. The utilities' experts' recommendations have consistently been at the high end of the total range, and Dr. Cleary's have been at the low end (consistent with his assertion as supported in Section 5.1 of his evidence that the allowed ROEs in Canada (and the U.S.) have simply been too high for several years).

Summary of Previous Decisions

	OEB 2023 (EGI Rebasing) (%)	**AUC 2015 (2013 GCOC Decision) (%)**	**AUC 2016 (%)**	**AUC 2018 (%)**	**AUC 2021 (%)[1]**	**AUC 2023 (%)**	**Newf. 2016 (%)**
Awarded ROE	**N/A**	**8.30 (2013-2015)**	**8.30 for 2016 / 8.50 for 2017**	**8.50**	**Extended 2018 Decision 8.50**	**Base ROE 9.0**	**8.5**
Mid-Point (Average) of Recom. Range of Recom.		8.68 (8.16) 6.8-10.5	8.75 (8.62) 7.0-10.5	8.53 (8.92) 6.3-10.75		8.53 (8.85) 6.75-10.3	8.5 (8.5) 7.5-9.5
Concentric (Coyne)				9.50		9.5	9.5
McShane		10.50					
Hevert			9.0-10.5	9.0-10.75			
D'Ascendis						10.3	
Villadsen			10.25	10.0		10.0	
Booth		7.50	7.50				7.5

[1] These proceedings were delayed and ultimately suspended due to COVID, etc.

Cleary		**6.78 (2013) / 7.27 (2014) / 7.42 (2015)** **(Avg. of 7.16)**	**7.0**	**6.3**		**6.75**	
CCA		7.50[1]					
Madsen						7.70	
Awarded Equity Ratio	**38.0**	**Various - utility specific (36.0-42.0)**	**Various - utility specific (36.0-42.0)**	**Various - utility specific** **(36.0-42.0) (37.0 for ENMAX)[2]**	**Various - utility specific** **Extended 2018 Decision** **(37.0 for most - 39.0 for Apex)**	**Various - utility specific** **(37.0 for most - 39.0 for Apex)**	**45%**

[1] Accepted Booth's ROE recommendations.

[2] Note in paragraph 813. The Commission stated: "In Section 9.9, the Commission reviewed the recommendation of Mr. Coyne that the income-tax-exempt utilities should receive a 200 bps adder to their deemed equity ratio. Based on its findings in that section, the Commission determined that no adder was warranted."

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ALBERTA UTILITIES COMMISSION

2021 GENERIC COST OF CAPITAL

PROCEEDING ID #24110

EVIDENCE OF DR. SEAN CLEARY, CFA, BMO PROFESSOR OF FINANCE

Submitted on behalf of:

The Office of the Utilities Consumer Advocate

January 20, 2020

Year	CAPM (1/3rd)	DCF (1/3rd)	BYPRP (1/3rd)	Best Estimate
2021-2022	5.0%	6.9%	6.0%	**6.0%**

The details of all estimates are provided herein, as is the reason for choosing an equal weighting scheme.

This estimate is 30 bp below my 2018 estimate, which is consistent with a reduction in the utilities' cost of capital since the risk-free rate and utility bond yields have both declined 50 bp since that time. It is a very reasonable estimate when compared to current expectations of market professionals for long-term overall stock market returns in the range of 5-9% (with a best estimate of 7.0%), when we consider the low-risk nature of regulated utilities. It is important to recognize that overall stock market conditions have changed over the last three decades and double digit "nominal" returns are no longer the norm for stocks, given existing 2% inflation expectations and long-term real growth expectations in the 1.7-2.0% range. It is also consistent with our current low interest rate environment, which is not expected to change materially over the forecast period.

1.4. Summary of Comments on Capital Structure

My analysis shows that Alberta utilities possess low risk as shown by their consistent "low business risk" ratings, their low earnings volatility, and most importantly, their ability to generate earned ROEs above the allowed ROEs for the last 13 years, exceeding the allowed ROE by an annual average (weighted average) of 0.72% (1.05%) over the 2005-2018 period. My analysis also shows that these earned ROEs displayed very low volatility, indicating low total risk.

Combining this risk analysis with my positive economic and capital market outlook, I am recommending no change in allowed equity ratios, but rather emphasize the impetus for a reduction in the allowed ROE. My analysis suggests these recommendations are reasonable, and the credit metric analysis provided by Mr. Bell supports this recommendation.

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ONTARIO ENERGY BOARD

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July 19, 2024

As noted by LEI on page 101 of its evidence: "The OEB must legally adhere to the FRS when setting the ROE." LEI provides the following summary of the well-known FRS on page 101 of its evidence:

> 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**.**

In accordance with the FRS, the OEB has used the following ROE methodology since 2009, which LEI summarizes nicely on page 102 of its evidence (footnote omitted, bold added for emphasis):

> The ROE is calculated using a base ROE of 9.75% (set in 2009) plus a LCBF spread and a utility bond spread, subject to an adjustment factor of 0.5, as shown earlier in Figure 3.
>
> The values for base ROE, base LCBF, and base utility bond spread were set as below:
>
> $$ROE_t = 9.75\% + 0.5 \times (LCBF_t - 4.25\%) + 0.5 \times (UtilBondSpread_t - 1.415\%)$$
>
> The OEB adjusts the ROE annually by adjusting LCBF and utility bond spread based on current data. The following are however fixed: (i) Base ROE; (ii) LCBF adjustment factor; (iii) Utility bond spread adjustment factor; (iv) base LCBF; and (v) base A-rated utility bond yield spread.

Similar to LEI's recommendation, I support this general approach of continuing to use this equity risk premium based model (with adjustments) and applying it on an annual basis, as has been done in the past. LEI recommends adjustments to the five factors included in the model as noted above, which I discuss in turn before providing my alternative recommendations.

3.10.1 Base ROE

I agree with LEI that it makes sense for the OEB to take this opportunity to update the base ROE from the 9.75% established in 2009, to a base ROE that reflects current capital market conditions. LEI recommends that the base ROE be set at 8.95%, which equals their CAPM

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ONTARIO ENERGY BOARD

2024 REVIEW OF COST OF CAPITAL PARAMETERS AND DEEMED CAPITAL STRUCTURE

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Evidence of Dr. Sean Cleary, CFA Professor of Finance

Sponsored by Industrial Gas Users Association (IGUA) and

Association of Major Power Consumers in Ontario (AMPCO)

July 19, 2024

3 ISSUES IDENTIFIED IN THE OEB "ISSUES LIST"

3.1 Impact of source of the capital and types of ownership on the cost of capital

***Issue 1:** Should the approach to setting cost of capital parameters and capital structure differ depending on:*
*a) The **source of the capital** (i.e., whether a utility finances its business through the capital markets or through government lending such as Infrastructure Ontario, municipal debt, etc.)?*
*b) The **different types of ownership** (e.g., municipal, private, public, co-operative, not for profit, Indigenous / utility partnership, etc.)?*

With respect to 1a), OEB's current practice of using actual debt rates in most cases considers the impacts of different funding sources, as noted by LEI. However, the deemed long-term debt rate (DLTDR) can be used as an estimate or a ceiling (if the actual rate is higher than DLTDR). This approach satisfies the FRS, is intuitive, and is easy to apply, and I agree with LEI that there is **no need to make changes** to this practice.

With respect to 1b), OEB's current policy is that ownership structure should not be a relevant consideration in determining a utility's cost of capital parameters. I agree with LEI's conclusion on page 52 of its evidence that:

> Allowing uniform ROE regardless of ownership is also consistent with the comparable investment standard of the FRS. The comparable return standard requires the allowed ROE to be *comparable to the return available from the application of invested capital to other enterprises of like risk.* The comparable investment standard implies risk determination based on the utilities' business/investment activities, and not the ownership type.

In particular, on page 52 of its evidence (bold added for emphasis, footnote omitted) LEI notes:

> As such, regulated utilities within a particular sector face very similar risks, given:
>
> • the composition of their rate bases is similar, i.e., the type of physical assets owned does not vary significantly. As such, electric distributors are commonly grouped as peer utilities when determining the appropriate rate of return; and
>
> • they operate in the same regulatory environment. For instance, all Ontario electric distributors' rates are governed by the same OEB regulations and principles, allowing them equal opportunities to recoup their operating costs.

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British Columbia Utilities Commission

Generic Cost of Capital Proceeding
(Stage 1)

Decision
and Order G-236-23

September 5, 2023

Before:
D. M. Morton, Panel Chair
A. K. Fung, KC, Commissioner
K. A. Keilty, Commissioner
T. A. Loski, Commissioner

Table 40: Allowed ROE for FEI and FBC

Models	Revised North American Gas Proxy Group	Revised North American Electric Proxy Group
CAPM – excluding flotation costs and financial flexibility adder (see Section 5.2.5)	9.90%	9.77%
Multi-Stage DCF model – excluding flotation costs and financial flexibility adder (see Section 5.3.3)	8.93%	8.99%
Flotation costs and financial flexibility adders for the CAPM and Multi-Stage DCF models only (see Section 6.2)	0.00%	0.00%
Risk Premium Model (see Section 5.4.3)	10.12%	10.16%
Average of all three models	**9.65%**	**9.64%**

From a purely mathematical standpoint, FEI would have an allowed ROE that is 1 bps higher than FBC. However, the Panel does not view that such differentiation in allowed ROE is warranted. The difference in utility characteristics is already reflected in the deemed capital structure for FEI and FBC. **The Panel finds that an allowed ROE of 9.65 percent for each of FEI and FBC will meet the Fair Return Standard based on the evidence examined and submissions received in Stage 1.**

For the reasons stated above, the Panel determines the following:

- **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.**

Although the allowed ROEs for both utilities are determined to be the same for FEI and FBC, the Panel notes that the reasoning behind the utilities' overall cost of capital determinations are fundamentally different. As a natural gas distribution utility, FEI's shareholder and investors are faced with higher business risk driven primarily by the Energy Transition. Hence, FEI's deemed equity component is higher than that of FBC. In contrast, while the Panel finds that FBC's business risks are similar since it was last reviewed, FBC is a relatively small utility with weaker financial metrics. Lastly, the financial models using the most recent October 2022 data and the appropriate proxy groups yielded very similar ROE results for both FEI and FBC.

FortisBC and Mr. Coyne introduce the weighted ROE concept, and the table below is a compilation of weighted ROEs presented by the parties compared to the Panel's decision.

Table 41: Comparison of Weighted ROEs for FEI and FBC

	FEI	FBC
Existing	3.37%	3.66%
Proposed	4.55%	4.00%
Canadian Average	3.23%	3.45%
U.S. Average	4.93%	4.72%
Proposed by interveners	3.20-3.99%	3.20-3.82%
Decision	9.65% * 45.0% = 4.34%	9.65% * 41.0% = 3.96%

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ASSOCIATION OF MAJOR POWER CONSUMERS IN ONTARIO/INDUSTRIAL GAS USERS ASSOCIATION (Dr. Sean Cleary)

Answer to Interrogatory from Ontario Energy Association (OEA)

Reference:

Exhibit M4
Page 46, lines 15-17

Preamble:

As the AUC stated in Alberta 2018 GCOC Decision 16 22570-D01-2018, para. 393 (emphases added): "In the Commission's view, although observable, the **ROEs approved for the U.S. utilities are not strictly market data."**

Questions:

a. Please confirm that in October 2023 the AUC set the base ROE for all electric and gas utilities in Alberta at 9.0% (Decision 27084-D02-2023).
b. Further, please confirm that the authorized ROE in 2024 for Alberta's electric and gas utilities is 9.28% through the operation of the AUC's newly adopted formula.

Responses:

a. Confirmed.

b. Confirmed.

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ASSOCIATION OF MAJOR POWER CONSUMERS IN ONTARIO/INDUSTRIAL GAS USERS ASSOCIATION (Dr. Sean Cleary)

Answer to Interrogatory from Electricity Distributors Association (EDA)

Question:

Please provide a list of all jurisdictions in the U.S. and Canada that have authorized a return on equity within +/- 50 basis points of Dr. Cleary's recommended ROE of 7.05%. For comparison purposes, please adjust the ROE to reflect an equity thickness of 60% debt and 40% equity.

Response:

Dr. Cleary is not aware of any jurisdictions where this is the case; although, he has not conducted a comprehensive search into the matter (which work would be beyond his reasonable scope of work in this matter).

This is not surprising, however, since it is consistent with Dr. Cleary's assertions that allowed ROEs in Canada and the U.S. are simply too high across the board, leading to utilities' earning excessive economic rent on the backs of consumers. For example, Dr. Cleary's analysis in Section 5.1 of his evidence in this case shows that the allowed ROEs in Canada have not declined in line with reductions in government and utility bond yields, and hence are providing Ontario (and Canadian and U.S.) utilities "excess compensation" in terms of allowed ROEs relative to their actual market-determined cost of equity.

Section 5.1 of Exhibit M4 also shows that the downward "stickiness" in awarded ROEs noted above is not unique to Ontario but can be observed in other Canadian jurisdictions, and is even more prevalent in the U.S., which is evidenced in the results of a 2017 study that examines "a dozen years' of gas and electric rate-setting decisions" in the U.S. and Canada over the 2005-2016 period. (See The Utility of Finance," S. Azgad-Tromer and E. Talley, Working Paper, Columbia University (https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2994314), Exhibit M4, Attachment AE.) A recent study by Sikes (2022) entitled "Regulatory Inequity" similarly shows that the average awarded ROE is much greater than the average utility's cost of equity, which means that any investment undertaken by the utilities creates value (i.e., generates economic rent).

During testimony at the EB-2022-0200 OEB proceedings, Dr. Cleary noted that allowed ROEs have not declined adequately in response to the reduction in the cost of capital that utilities' have experienced, as long-term government bond yields (or RF) and A-rated utility bond yields have declined significantly over the last two decades. Section 5.1 of Dr. Cleary's evidence in this case shows that since 2004, both RF and A-rated utility yields have declined markedly, while the allowed ROEs have declined much less so over this period. As a result, the spreads between allowed ROEs and these yields, both of which directly affect the utilities' cost of capital, have increased dramatically though the years. For example, in January 2004, the allowed ROE by the OEB was 9.88%, at a time when 30-year government yields (RF) were 5.3% and A-rated utility yields were 6.1%. So, the spread between the allowed ROE and RF was 4.57%, and between ROE and A yields was 3.78%. However, as of June 5, 2024, the allowed ROE was

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ONTARIO ENERGY BOARD

2024 REVIEW OF COST OF CAPITAL PARAMETERS AND DEEMED CAPITAL STRUCTURE

EB-2024-0063

Evidence of Dr. Sean Cleary, CFA Professor of Finance

Sponsored by Industrial Gas Users Association (IGUA) and

Association of Major Power Consumers in Ontario (AMPCO)

July 19, 2024

current estimates are based on samples that include 22 of 28 U.S. utilities, which are riskier than Canadian utilities (as demonstrated in in Appendix B of my evidence), and have historically had higher beta estimates (as demonstrated in in Appendix C of my evidence). Finally, LEI's MRP estimates do not consider current market conditions or investor expectations regarding future market returns (or MRPs) in the U.S. (or Canada), but simply focuses on U.S. historical evidence during relatively short time periods that reflect above average historical MRPs, and which triple weights the most recent period, thus providing a totally inflated and unrealistic MRP estimate that implies expected future long-term stock returns of 11.5%. These estimates are inconsistent with the practice employed by investment professionals (as reflected in the Kroll MRP estimates since 2008 of between 5 and 6%), and of using an MRP within the 4-6% range (which is the norm) in the CAPM, as discussed in Section 5.2 of my evidence.

Transaction Costs and the Cost of Equity:

LEI states on page 122 of its evidence that:

> As with LEI's recommendation for the treatment of transaction costs from debt issuances, LEI recommends considering the transaction costs associated with equity issuances as operating costs for similar reasons. Equity issuances do not happen with predictable regularity, which makes it more suitable to recover such costs as and when the utility incurs expenses.

Similar to my response regarding debt financing transaction costs provided in Section 3.8, I believe the current practice of adding 0.5% to Ke estimates seems reasonable, since it embeds the actual costs of equity financing related to new equity issues into the cost of equity, as they should be. The fact that most companies (utilities and other businesses alike) do not frequently engage in new equity issues does not detract from the fact that such issuing costs have a legitimate impact on their actual long-term equity financing costs when they do occur. As such, I believe the OEB's current practice of adding 0.5% to Ke estimates is a reasonable compromise, contrary to LEI's suggestion that these costs be included in operating costs.

My Base ROE Analysis and Recommendations:

Context:

I would note that my base ROE analysis is built upon my analysis of current and expected macroeconomic and capital market conditions that is presented in Section 4 of my evidence.

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INTRODUCTION TO CORPORATE FINANCE

BOOTH • CLEARY • RAKITA

FOURTH EDITION

WILEY

CONCEPT REVIEW QUESTIONS

1. Why is the weighted average cost of capital (WACC) so important?
2. What are the steps involved in estimating a firm's WACC?
3. How can we estimate the market value of common equity, preferred equity, and long-term debt?

20.3 ESTIMATING THE NON-EQUITY COMPONENT COSTS

Learning Objective 20.3
Estimate the cost of capital and its non-equity components.

Flotation Costs and the Marginal Cost of Capital (MCC)

To derive the cost of capital in the previous section, we were given the cost of equity, as well as the before-tax cost of debt. In this section, we show how we can calculate the cost of debt and preferred equity if we do not have this information. In the following sections, we discuss estimating the cost of common equity.

One complication that arises with respect to all sources of capital, except for internally generated funds, is that the firm incurs **issuing** or **flotation costs** when it issues new securities. These include any fees paid to the investment dealer and/or any discounts provided to investors to entice them to purchase the securities. As a result, the cost of issuing new securities will be *higher* than the return required by investors, since the net proceeds to the firm from any security issue will be lower than that security's market price.

issuing or **flotation costs** costs incurred by a firm when it issues new securities

It is especially important to be aware of this fact when we consider the cost of common equity to the firm. In particular, remember that there are two sources of common equity financing: reinvested earnings, which show up on the firm's balance sheet in the retained earnings figure, and new common share issues. When the common equity portion of financing comes entirely from reinvested earnings, the firm's cost of equity will equal the return required by its shareholders, as discussed previously. However, when the firm is forced into issuing new common shares, it must pay flotation costs for issuing these shares, so the cost to the firm is higher than the cost of using internally generated funds.

At this point, it is useful to introduce the concept of the **marginal cost of capital (MCC)**, which may be defined as the weighted average cost of the "next dollar" of financing to be raised. Sometimes the terms WACC and MCC are used interchangeably, although they are not really the same, since the WACC represents the weighted average cost of each dollar raised in total. The two tend to be the same for most levels of financing. However, they will differ when, at some financing level, the firm's cost of raising new money increases, causing the MCC to exceed the WACC. Given the discussion in the paragraph above, it's clear the most common cause of this increase in the MCC occurs when the firm cannot supply all of its required common equity financing from reinvested earnings (i.e., internal funds). Therefore, it must issue new common shares and bear the brunt of issuing costs, in addition to providing common shareholders with their required rate of return. This causes the cost of common equity to increase, meaning the MCC increases. The reason MCC and WACC are often identical is that many firms restrict their investment outlays so that all of the common equity finance portion can be provided by internal funds. (Recall from Chapter 13 that this procedure is referred to as capital rationing.)

marginal cost of capital (MCC) the weighted average cost of the next dollar of financing to be raised

In short, the MCC often exceeds the WACC due to the costs of raising additional funds. Changes in securities regulation have led to a drop in these issuing costs, so for large firms, like CP, they are relatively minor; bought deals, for example, mean that equity can be raised at a very low cost. However, for small firms these issue costs can be significant, causing the MCC to jump dramatically.

Issuing costs are approximately as shown in Table 20-4 but differ from one firm to another based on their size and the frequency with which they access the capital market.

TABLE 20-4 Average Issuing Costs

Commercial paper	0.125%
Medium-term notes	1%
Long-term debt	2%
Equity (large)	5%
Equity (small)	5% to 10%
Equity (private)	10% and up

These issuing costs represent a "financing wedge" between what the investor pays and what the firm receives, the difference being the money that is lost to these issue costs. This means that when a firm makes investments, it has to earn enough to cover both the cost of the equity it receives and the issue costs it pays.

Debt

We can determine the cost of debt to the firm by using a variation of Equation 20-12, in which we replace the bond price with the net proceeds (*NP*) the firm receives when it issues new bonds after paying its flotation costs. We would note here that flotation costs are tax deductible immediately. (On the other hand, when debt securities are issued at a discount from their face value, this cost will be amortized over the life of the debt.) We must make one more adjustment to Equation 20-12 to reflect the fact that the interest payments are tax deductible, whereas the principal repayment (i.e., the face value) is not. After making these substitutions, we merely solve for the firm's after-tax cost of debt (K_i) in the same manner by which we solved for the yield to maturity (YTM) in Chapter 6. This equation is given below.

[20-13]
$$NP = I \times (1 - T) \times \left[\frac{1 - \frac{1}{(1 + K_i)^n}}{K_i} \right] + F \times \frac{1}{(1 + K_i)^n}$$

EXAMPLE 20-2

Determining the Cost of Debt

Suppose firm ABC from Example 20-1 can issue new 10-year bonds at par value. The bonds pay 6-percent annual coupons. The before-tax issuing costs are 2.5 percent of par. Estimate the firm's before- and after-tax cost of debt.

Solution

Using $100 par value, we get the following values that can be substituted into Equation 20-13:

$$NP = 100 - 100\,(0.025)\,(1 - 0.4) = 100 - 1.50 = \$98.50$$
$$I = (0.06)\,(\$100) = \$6$$

So we have:

$$98.50 = 6 \times (1 - 0.4) \left[\frac{1 - \frac{1}{(1 + K_i)^{10}}}{K_i} \right] + 100 \times \frac{1}{(1 + K_i)^{10}}$$

Solving for K_i using a financial calculator,[6] as shown in Chapter 6, we get the solution below.

[6]Students who have not yet mastered the financial calculator can solve using the trial-and-error method illustrated in Chapter 6.

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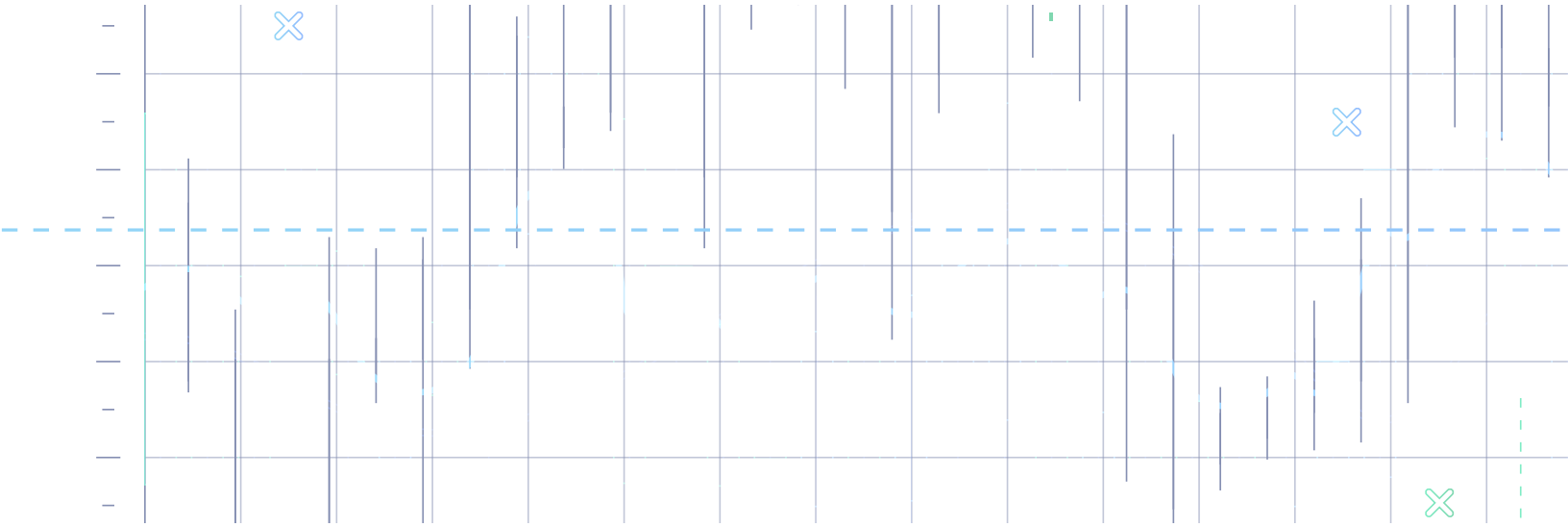

Changing Gears: Sustainable Finance Progress In Canada

September 2021

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Foreword

Andy Chisholm

MEMBER OF THE EXPERT PANEL ON SUSTAINABLE FINANCE;
BOARD DIRECTOR, ROYAL BANK OF CANADA.

We are reaching an inflection point on sustainable finance. Not only is sustainable finance essential to ensure markets allocate capital in a manner consistent with global climate objectives, it is fast becoming a competitive issue for businesses and for countries. Trillions of dollars of investment capital will be required in aligning industry sectors with viable pathways to net-zero by 2050. Opportunities will be numerous. While public funds will be essential, it is only private markets that can match the scale of investment required. Governments, businesses, and the financial sector are all expected to develop net-zero strategies and plans, providing both foresight and oversight of sustainability risks and opportunities, and executing accordingly. Sustainable finance provides many of the necessary market-based tools to allow this to happen.

When I joined with my colleagues on the Canadian Expert Panel on Sustainable Finance, our message focused on the need to develop a strategic roadmap to integrate sustainability into financial system policies and standards, bolster collaboration between the public and private sector, and increase investment in industry transition to strengthen Canadian competitiveness. It felt urgent to work towards a state where the notions of sustainable finance were integrated throughout the financial sector and applied to every day decision making, where sustainable finance was simply finance. We hoped that the report could act as an enduring roadmap for constructive change.

Since that time, virtually all relevant analysis has continued to point in this same direction, if anything amplifying the urgency and scale of effort required. Investors of many stripes are increasingly at the forefront of evaluating our responses to the climate challenge, allocating capital accordingly, with significant implications for the Canadian economy. The pandemic has only served to further intensify the focus on the social aspects of sustainability, including a clear societal call to mitigate and adapt to climate change. Topics such as adaptation and resilience, natural capital solutions, financial structures for ecosystem protection, Indigenous involvement, carbon offset markets, and others have been added to the essential 'to do' list.

As a result, I welcome the accountability of this report by the Institute for Sustainable Finance (ISF) on Canada's progress in sustainable finance. It takes stock of what has been achieved and not achieved since the Expert Panel recommendations were released just over two years ago. It is both timely and necessary. The central message from this ISF report is that we can and must do better; time is of the essence, and Canada needs to up its game to develop a competitive and sustainable economy which supports the need for an inclusive and rapid transition to net-zero. This analysis is not a surprise, but it is another wake up call to the public and private sectors that timely implementation is critical.

I am heartened by many of the advances of the private sector. Leading institutions have enhanced their disclosure and begun to experiment with risk and scenario analysis. Investment practices have evolved rapidly and meaningfully. Net-zero targets and financing commitments are being established. Training programs have been created to enhance knowledge and capacity. Guidance on legal and governance matters has emerged. Available risk capital has expanded. Notwithstanding these and other advances, there is an urgent need to grow the number of parties demonstrating concerted action, and to increase the scope, intensity, ambition, and speed of the efforts. One important learning is that as anticipated, for the financial system to act in a rational data-driven manner, data and disclosure are essential yet still lacking.

At the public sector level, again much has happened. Policies on carbon pricing have been further clarified. Emission reduction targets have been enhanced and will become law. Important advisory bodies have been established and regulators have begun to interact with the financial sector on risk and scenario planning. Infrastructure planning and funding has progressed. Retrofit finance is expanding. Additional support for cleantech innovation has been announced. Nevertheless, significantly more must be done, in conjunction with the private sector, to provide direction, establish boundaries, align regulation, and incent constructive action. The clarification of fiduciary responsibility, establishment of mandatory climate disclosure frameworks, and the accessibility and comparability of financially relevant climate data are, among other issues, ripe for advancement. Efforts surrounding these foundational issues remain limited or at early stages of development.

It is always easier to write a report than execute upon it, however, arguably, our collective analysis of relative trade-offs for more determined action remains somewhat short sighted. Our near-term risk aversion may underestimate the price for sluggish action, both environmentally and commercially, that might later be paid. Likewise, new opportunities for growth appear to be too heavily discounted in the face of uncertainty, notwithstanding what has been dubbed by many leading commentators 'one of the greatest commercial opportunities of our time'.

All in all, I remain optimistic. Canada has the necessary ingredients to excel in this space: financial expertise, business acumen, sophistication in our public sector, and a uniquely collaborative mindset. All of these are critical to align capital in a manner which will support a timely, commercially successful and just transition for the benefit of Canadians and the world more broadly. We need to come together to invest in our future success by fully stepping up to our environmental and social challenges, and thereby making our economy healthier and more resilient.

I anticipate that this report by the ISF will serve to improve our efforts in sustainable finance. I look forward to supporting the ISF as they continue to provide research, education, collaboration and engagement to accelerate solutions and hold all of us to account.

Acknowledgments

A significant undertaking such as this required numerous contributions from several individuals. We would like to first acknowledge the significant time commitment and contributions made by the Advisory Council convened for this project, as listed in Exhibit 2. In addition, we thank the 34 experts that agreed to be interviewed (listed in Exhibit 1) for providing us with excellent comments and insights into the current state of sustainable finance in Canada, as well as identifying key areas that must be addressed in an urgent manner.

While we cannot name everyone individually who contributed, we would also like to note the significant contributions of the following people:

- Andrea Moffat, for all of her contributions from start to finish on this project, including assistance in convening the Advisory Council, participating in the interview and organizational processes, and providing significant contributions to the body of the report.
- Andy Chisholm, for his comments during the interview process, and for the excellent Forward he prepared for the report.
- Barb Zvan and Tiff Macklem, original members of the Expert Panel on Sustainable Finance, for their valuable contribution to sustainable finance and for sharing their perspectives as we prepared this update report.
- Contributing Authors on the various feature boxes included throughout the report:
    - Clean Energy Canada
    - The Responsible Investors Association (RIA Canada)
    - The Transition Accelerator
    - Efficiency Canada
    - Philip Duguay, Canada Grid and The Transition Accelerator
    - Michael Thom, CFA Societies Canada, and Ian Robertson, Odlum Brown Ltd.
- Sara Alvarado and Maya Saryyeva from the ISF team.
- Our communications team (including the design and layout team), which is comprised from both the Marketing and Communications team at Smith School of Business, Queen's University, and from Argyle Communications.

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Contents

Executive Summary

The Canadian Expert Panel on Sustainable Finance (CEP) was convened in 2018 to explore opportunities and challenges facing Canada in this field.[1] The panel's terms of reference included working with the private sector and the federal government to consider private-public leadership opportunities to advance sustainable finance opportunities in Canada. The CEP released its final report in June of 2019, in the form of 15 recommendations "aimed at 'connecting the dots' between Canada's climate objectives, economic ambitions and investment imperatives" (Expert Panel Report, I). The need to make these connections has only grown in urgency over the past two years in the wake of the most recent Intergovernmental Panel on Climate Change (IPCC) report, Canada's heightened climate target ambitions, and intense global public and private sector focus on net-zero climate emissions, plans, and adaptation strategies. We have also seen increasing pressure from the global investment community to address and disclose material climate risk.

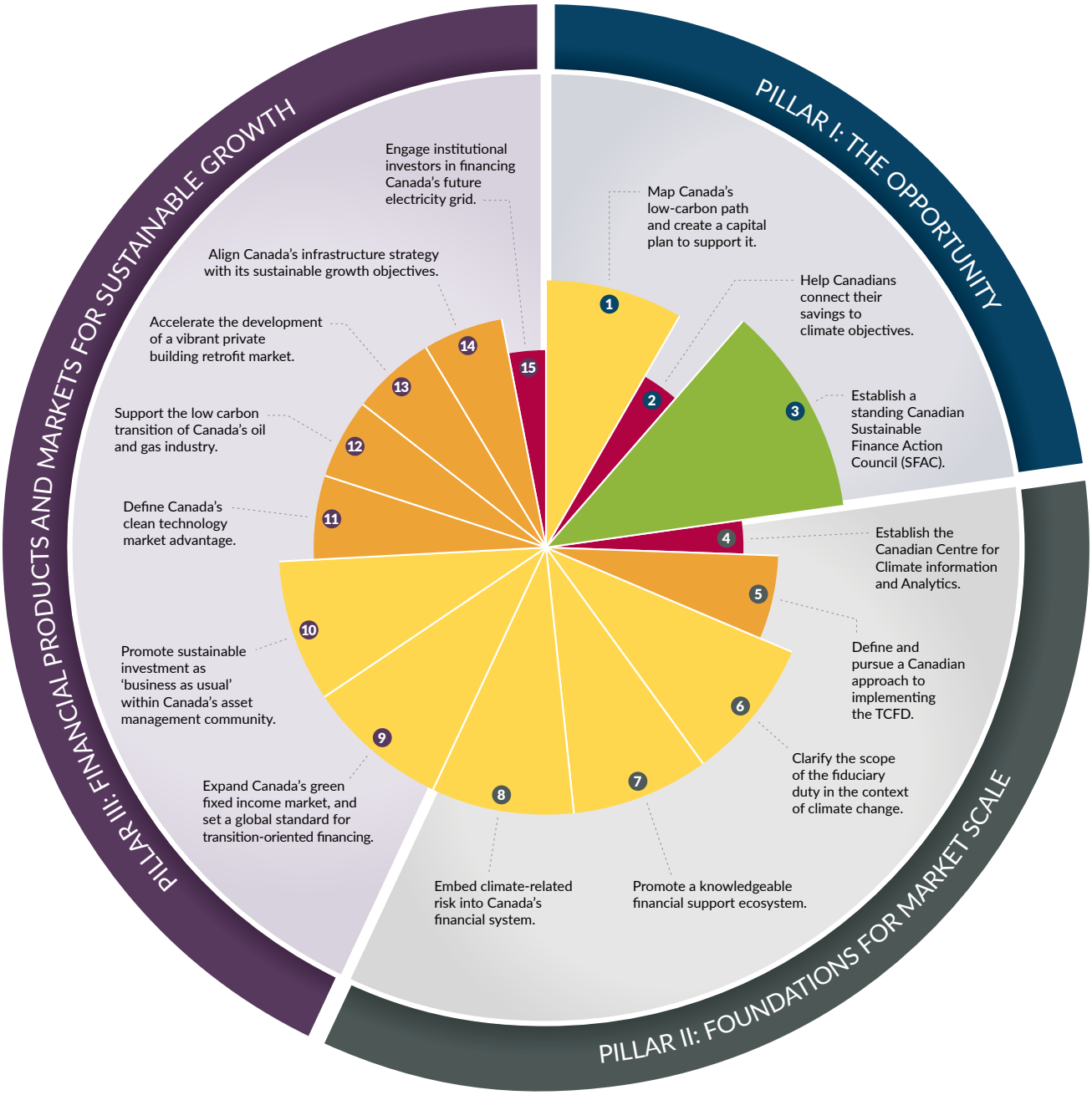
The ISF has undertaken an assessment of Canada's progress on the Expert Panel recommendations and on sustainable finance in general, and we highlight where there is need for additional and accelerated actions. There is a great deal of interconnectivity between the CEP recommendations and the key issues identified during the assessment process. This is a testament to the fact that the CEP hit the nail on the head in terms of identifying the key sustainable finance issues facing Canada, which is the good news. The bad news is that, despite considerable progress, many of the central issues noted in the CEP report facing Canada in 2019 are still among those we are grappling with today.

RESEARCH APPROACH

Our report begins with a thorough analysis of the progress made with respect to implementing the 15 recommendations as a springboard to discuss more broadly the current state of sustainable finance development in Canada. We begin our analysis by conducting a landscape review of actions and initiatives that have taken place over the last two years with respect to the recommendations. We supplement this landscape review with an interview process that engaged 34 interviewees, including three of the four members of the CEP. The experts were chosen to provide diverse perspectives on the numerous sustainable finance issues facing Canada today. We also brought together an Advisory Council of experts from across the financial industry to provide input and advice on the research and analysis.

PROGRESS ON CEP RECOMMENDATIONS

The figure below summarizes our assessment of progress on the 15 recommendations.



Progress Made

- **Significant:** Substantial actions and increased momentum have resulted in tangible outcomes.
- **Moderate:** Some substantial actions and/or meaningful momentum are increasing the near-term likelihood of tangible outcomes.
- **Marginal:** While some action has taken place or is underway, momentum toward tangible outcomes has been slow.
- **Minimal:** Few actions have/are taking place and/or there is limited momentum toward tangible outcomes.

KEY THEMES

We combined the results of our landscape review with the feedback from our interview process to identify key themes and potentially high impact areas critical to Canada's future progress with respect to making an effective transition to a sustainable and prosperous economy. We briefly discuss each of these seven themes below, and refer the reader to the complete report for additional details:

1. **Accelerated action and execution is needed.** Canada has started to develop many of the foundational elements laid out in the Expert Panel recommendations necessary to accelerate sustainable finance. While it has only been two years since the release of the report, and we have been dealing with a global pandemic for the last year and a half, it is clear that progress has been too slow, and there is still a great deal of work to do. Clear execution is needed over the short term, and there is financial institution and expert support and engagement to help move this forward.

    - The most frequent comment made by interviewees was that Europe and the UK have been setting the tone in terms of discussions and actions related to sustainable finance issues, and that Canada has fallen behind. This leaves us playing catch-up, and it is becoming clear that the Biden Administration will be moving very quickly.
    - The general consensus among interviewees was that the private financial sector is now moving faster than the government and regulators in Canada. The government needs to set the framework and standards for the private sector to respond and to attract investment for industry to transition. Experts made particular reference to important foundational elements such as disclosure and fiduciary duty. The analysis and research on how to implement these elements are available, and governments need to act now to set these standards and to establish processes for their evolution over time.

2. **Our financial ecosystem needs to embrace change.** There was strong support for the need to shift the approach and behaviours of Canada's investment industry and financial institutions. Sustainable finance has moved beyond being a functional requirement for firms, and it is now a commercial imperative. This was reflected in many comments relative to several specific and related issues, which are divided into private, public, and public-private sector categories below; although, there is clearly a relationship across the first two categories:

    Private Sector Focus

    a. Creating and taking advantage of innovative financing options and investment products, which was the most frequently cited opportunity.
    b. Engaging the public and leveraging the retail investor base to support the net-zero transition.
    c. Capitalizing on the investor engagement opportunity.

    Public Sector Focus

    d. Mandating disclosures in alignment with the Task Force on Climate-related Financial Disclosures (TCFD) recommendations, as well as those of the Sustainability Accounting Standards Board (SASB).
    e. Clarifying the scope of fiduciary duty in law and practice.

    Public-Private Sector Focus

    f. Use Canadian financial sector expertise on infrastructure to develop a pipeline of projects to finance in Canada for net-zero transition.
    g. Addressing sustainable finance data issues.
    h. Dealing with issues related to investment product labelling and greenwashing.
    i. Dealing with the risks associated with capital flight.

3. **Canadian-specific solutions are required.** We need sector-specific decarbonization pathways and transition scenarios that are supported by research within a Canadian context.[1] Further, we need to develop the financing innovations and mechanisms for implementation. It is worth noting that supporting the energy transition was a commonly cited need for short-term action. In addition, transitioning the oil and gas sector and ensuring a just transition were commonly cited risks. Related to this theme, interviewees emphasized the importance of completing the Canadian Transition Taxonomy.

1 For example, please refer to: (1) "Transition Accelerator, "Pathways to Net-zero," https://transitionaccelerator.ca/pathways-to-net-zero/; and, (2) Canadian Institute of Climate Choices, "Canada's Net-zero Future," https://climatechoices.ca/reports/canadas-net-zero-future/.

4. **Sustainable finance must include more than climate.** In the wake of COVID-19 and in the context of Canada's reckoning with the urgency of truth and reconciliation with Indigenous peoples, interviewees urged for a broader, more inclusive, and socially concerned sustainable finance conversation. It is also important to consider biodiversity loss and ecosystem collapse, which the World Economic Forum rated as one of the top five risks over the next 10 years.[2]
5. **Canada's net-zero transition requires a more unified approach and narrative.** There has been a largely disaggregated mosaic of perspectives on sustainable finance and the net-zero transition in Canada. It was noted that the concept is still not well-defined and understood. As a result, which activities and actions count as net-zero remain to be determined and are likely to be industry-specific. There is a need to establish a more centralized voice and perspective for the country, as well as strengthened communication channels across public and private sectors. Relatedly, policy uncertainty in Canada continues to be a major concern among participants that were interviewed.
6. **While climate mitigation is critical, we need a greater focus on adaptation and resiliency.** Many interviewees noted that climate resilience and adaptation have continued to be priorities as climate change impacts become more apparent. With increasing number and intensity of fires and floods across the country and their impacts on communities and businesses, it is not surprising that this is top of mind. In addition, concerns were raised about access to reinsurance, as the large reinsurers are European and feeling the pressure to transition away from high-carbon sectors.
7. **Clean Innovation and other opportunities need more support.** The importance of capitalizing on cleantech opportunities, as well as our lack of progress to date in doing so was frequently noted. For example, technologies to support oil and gas transition such as hydrogen, and carbon capture, utilization, and storage (CCUS) were frequently raised as Canadian opportunities. Other "not to be missed" Canadian opportunities include scaling building retrofits, becoming a global leader in the production of transition materials (e.g., minerals to batteries to electric vehicle supply chain), and leveraging our low-carbon electricity grid for inter-provincial and North-South integration into US electricity markets. Finally, it was viewed that Canada has opportunities for nature-based solutions and taking advantage of carbon markets as they scale.

CONCLUSIONS

The transition of Canada's economy to a sustainable and prosperous one is both a sprint and a marathon. What this report suggests is that we have been slow out of the gate, and also that we are making progress — there are some opportunities to make up for lost ground and to put ourselves in good position for the long run. The Canadian Expert Panel Report provided a strategic roadmap on sustainable finance for the public and private sectors to further develop and implement. Two keys to accelerating this progress are creating a more unified approach and unlocking private capital, so that it will increasingly be allocated through a sustainable finance lens.

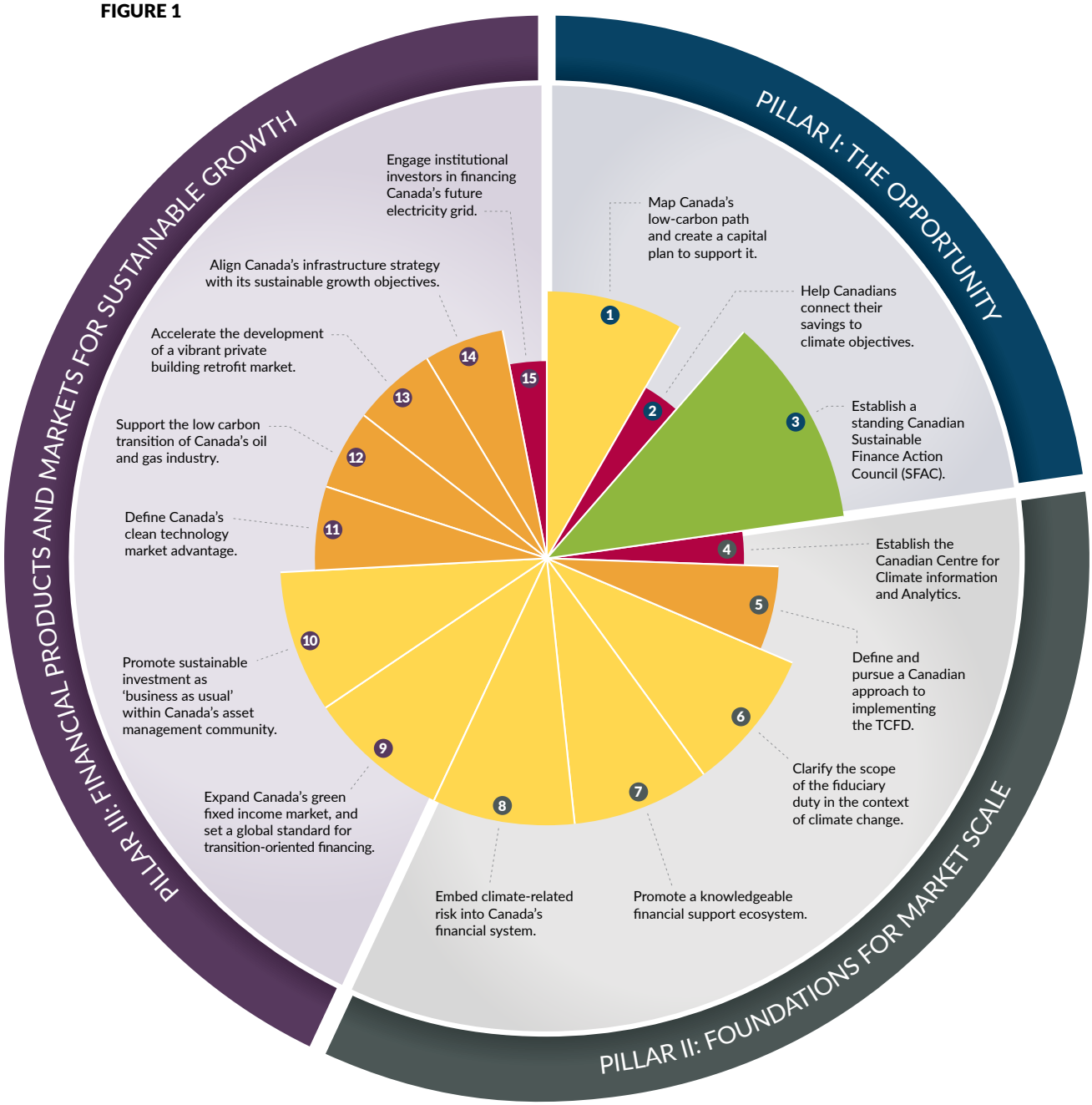
With global momentum continuing to build on sustainable finance, there is an urgent need to execute on the foundational recommendations of fiduciary duty, disclosure, transparent and usable data, and a clear taxonomy for transition. Additional collaboration, engagement, and a transparent process to bring together a coherent public and private sector perspective for executing on these foundational elements are required over the short and long term. The implementation of these foundations will inspire the confidence and clarity for unlocking private capital and the innovation needed to support industry sector transition, infrastructure development, and support for new industries and supply chains for a net-zero, sustainable economy. Success is essential for Canadian competitiveness.

2 See: https://www.weforum.org/reports/the-global-risks-report-2020.

A. Landscape Review

This section discusses the highlights of our review of progress against the 15 recommendations of the Canadian Expert Panel on Sustainable Finance (CEP) with regards to actions and initiatives that have taken place and/or are in progress. Figure 1 depicts the state of progress in implementing the various recommendations. We elaborate on these conclusions below — in order of the recommendations.

FIGURE 1



Progress Made

- **Significant:** Substantial actions and increased momentum have resulted in tangible outcomes.
- **Moderate:** Some substantial actions and/or meaningful momentum are increasing the near-term likelihood of tangible outcomes.
- **Marginal:** While some action has taken place or is underway, momentum toward tangible outcomes has been slow.
- **Minimal:** Few actions have/are taking place and/or there is limited momentum toward tangible outcomes.

PILLAR I: THE OPPORTUNITY

Recommendation 1 2 3

Map Canada's long-term path to a low-emissions, climate-smart economy, sector by sector, with an associated capital plan.

PROGRESS — MODERATE

still room for implementation and results

REMAINING NEED FOR ACTION

COMMENTS:

There has been much progress with respect to Recommendation 1, but there is still much to be done. Some of the significant strides taken towards establishing this roadmap for Canada's transition include the following:

- The Institute for Sustainable Finance (ISF) released its Capital Mobilization Plan report in September 2020, providing the capital plan to achieving Canada's 2030 target.[2]
- In December of 2020, the federal government announced that the price on carbon will increase to $170 per tonne by 2030.[3]
- Proposed regulations for the Clean Fuel Standard (CFS) were published in *Canada Gazette*, Part I, on December 18, 2020.[4]
- In February 2021, the Canadian Institute for Climate Choices published "Canada's Net-zero Future," which provides an analysis of various potential pathways to net-zero in Canada.[5]
- On March 5, 2021, Environment and Climate Change Canada (ECCC) announced draft regulations to establish the Federal Greenhouse Gas Offset System.[6]
- On March 25, 2021, the Supreme Court of Canada ruled that the current federal carbon pricing regime is constitutional.[7]
- On April 22, 2021, Canada announced plans to increase its emission reduction target to a 40-45% reduction by 2030 relative to 2005 levels.[8]
- In June 2021, Bill C-12, the Canadian Net-Zero Emissions Accountability Act, passed in the House of Commons and the Senate and will become law.[9]
- As part of Bill C-12 the *Net-Zero Advisory Board* was established as an independent group of 14 members mandated to provide advice to the Minister of Environment and Climate Change, the Prime Minister and Cabinet on the pathways to get to net-zero and interim targets.

Recommendation 1 2 3

Provide Canadians the opportunity and incentive to connect their savings to climate objectives.

PROGRESS — MINIMAL

a gap to examine more deeply

REMAINING NEED FOR ACTION

COMMENTS:

It is interesting to note that during the interview process, discussed in Section B, the 2nd most frequently cited need for action in the short-term is to leverage retail investors. This highlights the importance of Recommendation 2. Our discussion related to Recommendation 10 highlights a notable increase in the amount of financial assets being managed consistent with responsible investing principles, as well as a corresponding increase in the availability of sustainable investment product options. Unfortunately, there is a significant gap on progress made with regard to providing investing incentives, but some progress is currently in motion with respect to 2.2:

- In October 2020, the CFA Societies Canada ESG Working Group submitted a response form regarding the Consultation Paper on the development of the CFA Institute ESG Disclosure Standards for Investment Products. The Exposure draft of the Standard was issued in May 2021, and the final version is expected in November 2021.[10]
- On October 7, 2020, the Canadian Investment Funds Standards Committee (CIFSC) released a proposal to adopt a Responsible Investment Fund Identification Framework followed by a 60-day comment period. One of the stated goals was to "align, to the greatest extent possible, with the terminology and the categories of RI strategies that the CFA chooses to promote."[11]
- Securities regulators are also beginning to intervene in the area of labelling of ESG investment products and are concerned about investor protection.[12]

Recommendation 1 2 3

Establish a standing Canadian Sustainable Finance Action Council (SFAC), with a cross-departmental secretariat, to advise and assist the federal government in implementing the Panel's recommendations.

PROGRESS — SIGNIFICANT

recently completed

REMAINING NEED FOR ACTION

COMMENTS:

Progress on this recommendation took some time, but the SFAC has recently been established, and its efforts will be important for getting results on many of the other CEP recommendations:

- In December 2020, the federal government announced a commitment of $7.3 million over three years for the Department of Finance and ECCC to create a public-private Sustainable Finance Action Council (SFAC) aimed at developing a well-functioning sustainable finance market in Canada.[13]
- The Council was formed in June 2021, with a principal mandate "to make recommendations on critical market infrastructure needed to attract and scale sustainable finance in Canada, including: enhanced assessment and disclosure of climate risks and opportunities; better access to climate data and analytics; and common standards for sustainable and low-carbon investments."[14]

PILLAR II: FOUNDATIONS FOR MARKET SCALE

Recommendation 4 5 6 7 8

Establish the Canadian Centre for Climate Information and Analytics (C3IA) as an authoritative source of climate information and decision analysis.

PROGRESS — MINIMAL

lots of room to go

REMAINING NEED FOR ACTION

COMMENTS:

There has been limited progress made with regard to this recommendation. This is unfortunate since data issues are frequently raised in discussions regarding impediments to allocating capital to sustainable finance solutions. However, the SFAC has set up a sub-committee to examine this issue and to come up with solutions.

We do note the following activities that have occurred with respect to this recommendation:

- In June 2019, the Government of Canada launched ClimateData.ca, a new climate data portal. It was developed for users such as public health professionals, engineers, and planners, who require more than general climate change information to help understand and adapt to climate change.[15]
- In August of 2020, the Smart Prosperity Institute published "Bridging the Transparency Gap in Sustainable Finance: Advancing the Business Case for the Canadian Centre for Climate Information and Analytics (C3IA).[16]
- The ISF is currently in the process of developing a Climate Finance Data Lab.

Recommendation 4 5 6 7 8

Define and pursue a Canadian approach to implementing the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD).

PROGRESS — MARGINAL
need to move faster

REMAINING NEED FOR ACTION

COMMENTS:

During the interview process, the most frequently cited need for action in the short term was to mandate TCFD disclosures, which was noted by 15 interviewees. This reflects the importance of having reliable information in order to allocate capital using a sustainable finance lens. While some progress has been made and we seem to be heading in the right direction, things simply seem to be moving too slowly on this front, especially when compared to international action:

- By August of 2021, there were 94 Canadian TCFD Supporters, including 59 financial institutions.[17]
- According to Milani, as of 2020, 42% of S&P/TSX Composite Index issuers reported in alignment with the TCFD recommendations, up from 30% in 2019.[18]
- As part of the federal government's COVID-19 economic recovery strategy, Large Employer Emergency Financing Facility (LEEF) recipient companies were required to commit to publish annual climate-related disclosure reports consistent with the TCFD recommendations.[19]
- On November 25, 2020, the CEOs of eight largest Canadian pension plan investment managers, issued a rare joint statement expressing support for companies and investors to provide "consistent and complete" ESG information by leveraging the SASB and TCFD frameworks.[20]
- Ontario's 2021 Budget references the recent Ontario Capital Markets Modernization Taskforce report recommendation that the Ontario Securities Commission (OSC) mandate companies to provide ESG disclosure that complies with a significant portion of the approach adopted by the TCFD.[21]
- In Budget 2021, the federal government announced plans to engage with provinces and territories, with the objective of making climate disclosures, consistent with the TCFD, part of regular disclosure practices for a broad spectrum of the Canadian economy.[22]
- During June 2021, Canada's 10 largest pension plans submitted a Statement of Support to the Securities Exchange Commission (SEC) regarding climate disclosures, stating "We recommend moving beyond a principles-based approach, by leveraging the TCFD Framework." [23]
- On August 3, 2021, the Canadian Bond Investors Association (CBIA), which represents over 50 members managing more than $1.2 trillion in fixed income AUM, published a "Statement on ESG Disclosure and Sustainable Labeled Bonds." The CBIA asks that companies report relevant ESG data such as those endorsed by SASB and the TCFD.[24]

Recommendation 4 5 6 7 8

Clarify the scope of fiduciary duty in the context of climate change.

PROGRESS — MODERATE

progress has emanated mainly from the private sector and in the form of legal opinions

REMAINING NEED FOR ACTION

COMMENTS:

During the interview process, clarifying the scope of fiduciary duty in practice and in law tied for the second most frequently cited need for action in the short-term, as noted by 12 interviewees. This reflects the importance of having capital allocators and other companies recognize the importance of climate change in their business and capital allocation decisions. While there has been no significant movement on the regulatory front with respect to this recommendation, the private sector, particularly financial institutions, have come to recognize the relevance of climate change in their decision-making process. Some recent legal opinions have verified the importance of climate change for corporations and pension funds:

- In response to CEP Recommendation 6, Sarra and Williams, both Canadian members of the Commonwealth Climate and Law Initiative, published a 2019 report that included recommendations with respect to both fiduciary obligations and disclosure requirements.[25]
- In June of 2020, Hansell LLP published an important legal opinion indicating that Canadian directors are obligated to consider climate change risks and opportunities relevant to the companies of which they sit on the board.[26]
- The Institute for Corporate Directors (ICD) is the host of Chapter Zero Canada, the Canadian chapter of the World Economic Forum's (WEF) Climate Governance Initiative (CGI). [27] The WEF has developed a set of Climate Governance Principles for boards of directors, set out in its white paper, "How to Set Up Effective Climate Governance in Corporate Boards: Principles and Questions."[28]
- In December 2020, the Canada Climate Law Initiative published "Audit Committees and Effective Climate Governance: A Guide for Boards of Directors."[29]
- At the institutional investing level, RBC's 2020 Responsible Investment Survey of over 800 global investors showed that among the Canadians included in this survey 63% integrated ESG factors because they believed it was a component of their fiduciary duty.[30]
- A May 2021 legal opinion by Randy Bauslaugh of McCarthy Tétrault LLP, states that climate change considerations lie squarely under the fiduciary responsibilities of pension plans.[31] The report arrives at this conclusion based on interpretation of current law, and an acceptance of the fact that climate change is a material financial consideration.
- In June 2021, the Commonwealth Climate and Law Initiative (CCLI) published a "Primer on Climate Change: Directors' Duties and Disclosure Obligations."[32]

Recommendation 4 5 6 **7** 8

Promote a knowledgeable financial support ecosystem.

PROGRESS — MODERATE

room to accelerate uptake and ensure a coordinated and collaborative approach

REMAINING NEED FOR ACTION

COMMENTS:

There has been moderate progress with respect to improving knowledge and understanding of sustainable finance issues, but there is still room to go. Some of the significant efforts include the following:

- Several organizations throughout Canada are actively strengthening education, training, and collaborative initiatives on climate-related financial risks and opportunities, such as the Responsible Investment Association (RIA), CPA Canada, the CFA Institute and Canadian CFA societies, Finance Montreal, the Global Risk Institute (GRI), the Institute for Corporate Directors (ICD), the Canadian Coalition for Good Governance (CCGG), and the ISF.
- The Canadian Sustainable Finance Network (CSFN) was formed in October 2019, with 42 members representing 14 institutions, and has grown to over 90 members representing 25 institutions. The CSFN is an independent research and educational academic network that convenes academia, industry, and government for bi-monthly research webinars, an annual conference and various other activities devoted to sustainable finance issues.[33]

Recommendation 4 5 6 7 8

Embed climate-related risk into monitoring, regulation and supervision of Canada's financial system.

PROGRESS — MODERATE
room to move

REMAINING NEED FOR ACTION

COMMENTS:

There has been moderate progress on this recommendation, with things moving in the right direction since the Bank of Canada joined the Central Banks' and Supervisors' Network for Greening the Financial System (NGFS) in 2019. Many interviewees expressed optimism regarding the impact of the current pilot project regarding climate change scenarios being developed by the Bank, the Office of the Superintendent of Financial Institutions (OSFI), and several key financial institutions.

- In March 2019, the Bank of Canada announced that it had joined the NGFS, and subsequently identified climate change as one of key systemic vulnerabilities to the financial system.[34]
- In January 2021, OSFI released a consultation paper regarding climate-related risks and the financial sector. With respect to its oversight of federally regulated financial institutions (FRFIs) and federally regulated pension plans (FRPPs). The paper notes that while "OSFI's current guidance does not reference climate-related risks specifically, it includes principles and expectations that are relevant to FRFI's (FRPPs) management of these risks." [35]
- OSFI and the Bank of Canada are in the midst of a pilot project, along with a number of key Canadian financial institutions, to use climate-change scenarios relevant to Canada to better understand the risks to the financial system with respect to a transition towards a low-carbon economy.[36]

PILLAR III: FINANCIAL PRODUCTS AND MARKETS FOR SUSTAINABLE GROWTH

Recommendation 9 10 11 12 13 14 15

Expand Canada's green fixed income market, and set a global standard for transition-oriented financing.

PROGRESS — MODERATE

need to step it up

REMAINING NEED FOR ACTION

COMMENTS:

During the interview process, completion of the Canadian taxonomy was the 6th most frequently mentioned required action in the short term, while developing innovative financing was the most frequently mentioned opportunity. Both facts reflect the importance of developing vibrant green and transition markets, as well as an accompanying taxonomy. There has been moderate progress on these issues, but much work remains, and implementation efforts need to be accelerated. The SFAC has set up a sub-committee to take the Transition Taxonomy work to date and to develop it further into a viable initiative:

- In April 2019, the Canadian Standards Association (CSA Group) established a Transition Taxonomy Technical Committee (TTTC), responsible for developing a Sustainable Finance-Defining Green Taxonomy for Canada. The TTTC is currently developing a framework for both a Canadian-specific standard, and for Canada's participation in formulating a new ISO Sustainable Finance Standard.[37] The final report is expected to be released during the fall of 2021.
- The Government of Canada announced intentions to issue its first sovereign green bond in December 2020.[38] Within Budget 2021, it was announced that the government will publish a green bond framework in the coming months in advance of the inaugural sovereign green bond, with an issuance target of $5 billion.[39]
- In March 2021, sustainable bonds began trading on the Toronto Stock Exchange (TSX).[40]
- Currently, the International Capital Markets Association's (ICMA) Green Bond Principles, Sustainability-Linked Bond Principles, and Climate Transition Finance Handbook Guidance for Issuers serve as important tools for global standards on transition-oriented financing.[41] [42]
- As of Q1 2021, Canada had issued a cumulative total of $35 billion USD of green, social and sustainability (GSS) debt, placing the country 11th globally, with green bonds and loans originating in Canada comprising $30 billion USD of the total.[43] During 2020, Canadian green bond issuance exceeded $8.5 billion USD, up from $7.0 billion in 2019, $5.5 billion in 2018, and just $537 million USD in 2016.[44]

Canada Green Bond Scorecard

Global ranking end of Q1 2021: 9th	**Number of bonds: 79**
Contribution to Canadian green, social and sustainability (GSS) bond market: 86%	Average size: $459.7 million CAD ($380m USD)
Number of entities: 32	Repeat issuers: 18
Biggest issue/amount: Province of Ontario / $7.5 billion CAD	Contribution to the Canadian debt market: 0.8%

Source: Climate Bonds Initiative (https://www.climatebonds.net/files/reports/north_america_sotm_final.pdf)

Recommendation 9 10 11 12 13 14 15

Promote sustainable investment as "business as usual" within Canada's asset management community.

PROGRESS — MODERATE
need to step it up

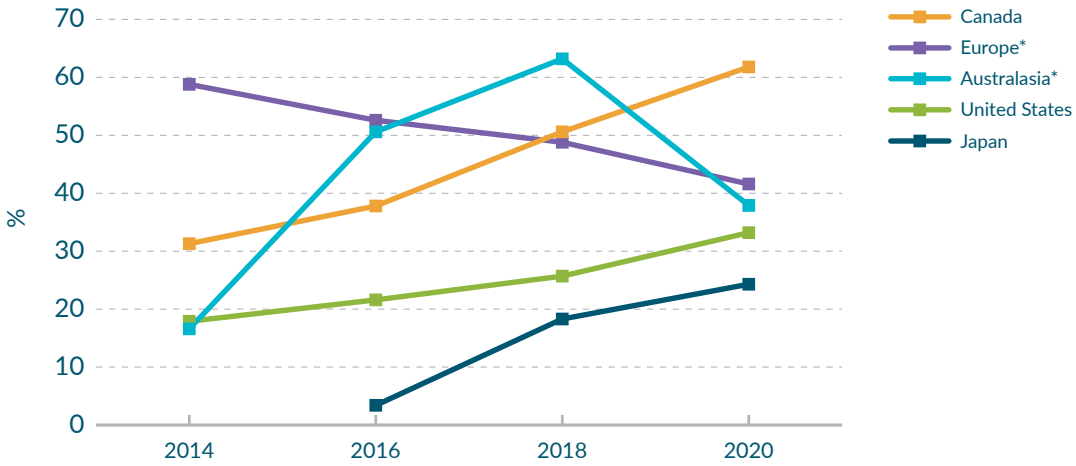
REMAINING NEED FOR ACTION

COMMENTS:

There has been moderate progress on this recommendation, with leadership coming from the large pensions, the banks, and independent asset managers. As with many of the recommendations, despite progress, there still is room for future progress:

- By December 2020, more than 3,000 global investors responsible for over USD $100 trillion in assets were signatories of UN-PRI, including over 150 Canadian signatories.
- According to the 2020 Responsible Investment Association's (RIA) 2020 Canadian Responsible Investment Trends Report as of December 31, 2019, there were $3.2 trillion in responsible investment (RI) assets under management (AUM), a 48% growth in RI AUM over a two-year period. RI represents 61.8% of Canada's investment industry, up from 50.6% two years ago.[45]
- RBC's 2020 survey of 809 global institutional investors and investment consultants found that 75% integrate ESG factors into their investment decisions. Among the Canadians sampled 87% believed that integrating ESG factors can help mitigate risk, 70% believed ESG-integrated portfolios help generate long-term sustainable alpha, and 63% integrated ESG factors because they believed it was a component of their fiduciary duty.[46]
- Morningstar identified 41 new sustainable funds and ETFs that came to market from Canadian domiciled fund manufacturers during 2020, more than double than 2019. Further, over the past three years, assets invested in sustainable funds and ETFs have doubled, and Morningstar estimates that the year-over-year assets in the space have grown by 67%.
- As announced in February 2021, the RIA, the Shareholder Association for Research and Education (SHARE) and Ceres are working on establishing the Climate Engagement Canada (CEC) initiative, to serve as a national engagement program akin to Climate Action 100+ as per Recommendation 10.2.[47]
- Based on the Global Sustainable Investment Alliance 2020 Review, sustainable investing assets grew in Canada more than threefold from $1 trillion CAD in 2014 to $3.2 trillion in 2020. Canada is now the market with the highest proportion of sustainable investment assets at 62%, followed by Europe (42%), Australasia (38%), the United States (33%) and Japan (24%).[48]

Proportion of sustainable investing assets relative to total managed assets 2014-20



*Europe and Australasia have enacted significant changes in the way sustainable investment is defined in these regions, so direct comparisons between regions and with previous versions of this report are not easily made.
Source: Global Sustainable Investment Alliance (http://www.gsi-alliance.org/wp-content/uploads/2021/08/GSIR-20201.pdf)

Recommendation 9 10 11 12 13 14 15

Define Canada's clean technology market advantage and financing strategy.

PROGRESS — MARGINAL
key priority

REMAINING NEED FOR ACTION

COMMENTS:

During the interview process, development of hydrogen was tied for second as one of Canada's greatest opportunities, development of carbon capture and storage (CCUS) was tied for 4th, while taking advantage of carbon markets and nature-based solutions was 6th. Unfortunately, the consensus is that there has been insignificant progress in developing a cleantech advantage for Canada, and there is still much to do on this recommendation:

- On March 4, 2021, the federal government announced $2.75 billion in funding over five years, starting in 2021, to enhance public transit systems and switch them to cleaner electrical power, including supporting the purchase of zero-emission public transit and school buses.[49]
- In December 2020, Natural Resources Canada (NRCan) announced a Hydrogen Strategy for Canada. The Hydrogen Strategy for Canada lays out a framework for actions that will cement hydrogen as a tool to achieve the goal of net-zero emissions by 2050 and position Canada as a global, industrial leader of clean renewable fuels.[50]
- In March 2021, Canada and Germany signed a memorandum of understanding (MOU), which outlines a plan to co-operate on energy policy and research. Hydrogen is expected to play a central role as outlined in section IV of the Areas of Cooperation within the MOU.[51]
- The Transition Accelerator is developing a hydrogen HUBs initiative designed to accelerate the development of regional hydrogen economies in locations across the country with low-cost, low-carbon hydrogen. These HUBs will later be connected to others across Canada to break the cycle of insufficient hydrogen supply and demand, and achieve sufficient scale for a strong Canada-wide hydrogen economy. HUBs have been launched in Edmonton and Medicine Hat as of August 2021.
- Canada's first hydrogen HUB was launched in April 2021 outside of Edmonton, with $2 million in funding from Western Economic Diversification Canada, Alberta's Industrial Heartland Association and Emissions Reduction Alberta.[52]
- In June 2021, the Federal and Alberta government signed an agreement with a private company that could lead to a $1.3 billion hydrogen plant being built in Edmonton.[53]

- There are multiple avenues for funding available to Canadian cleantech companies available through Export Development Canada (EDC), Business Development Canada, as well as Sustainable Development Technology Canada (SDTC). Additionally, the Clean Growth Hub is a free service offered by the Government, that works with clean technology producers and adopters to help find federal programs and services to advance clean tech projects.[54]
- In December 2020, the federal government announced a $3 billion investment over 5 years through the Strategic Innovation Centre's Net-zero Accelerator, which supports projects reducing domestic emissions across the economy.[55] Additionally, Budget 2021 adds up to $17.6 billion in green recovery spending, including an additional $5 billion seven-year commitment to the Net-Zero Accelerator.[56]
- Within Budget 2021, is a proposal to reduce, by 50%, the general corporate and small business income tax rates for businesses that manufacture zero emission technologies. The reductions would go into effect on January 1, 2022, and would be gradually phased out starting January 1, 2029 and eliminated by January 1, 2032.[57]
- Further, the Budget proposes an investment tax credit for capital invested in carbon capture, utilization, and storage (CCUS) projects,[58] as well as $319 million in funding over seven years to support research, development, and demonstrations to improve the commercial viability of CCUS.
- In June 2021, Natural Resources Canada launched a $1.5 billion Clean Fuels Fund. The fund will support building new or expanding existing clean fuel production facilities, including hydrogen, renewable diesel, synthetic fuels, renewable natural gas and sustainable aviation fuel.[59]
- On August 9, 2021, Natural Resources Canada opened a call for studies on carbon capture technologies.[60]
- Canada's cleantech sector, including renewables and clean energy firms listed on the TSX and TSXV, secured $3.09 billion in equity financings during the first half of 2021, a 335% increase over the same period last year, according to data from the TMX Group.[61]

TSX & TSXV Clean Energy and Renewable Market Cap and Financings for First Half

	H1 '15	H1 '16	H1 '17	H1 '18	H1 '19	H1 '20	H1 '21
Number of issuers	119	109	96	90	84	81	88
Market capitalization ($ Bn)	29.04	33.73	41.39	40.81	44.70	53.17	89.13
New listings	2	2	1	3	1	0	16
Equity capital raised ($M)	1,450	2,414	287	1,401	324	831	3,090
Number of financings	50	47	29	45	36	24	44

Source: Financial Post (https://financialpost.com/commodities/energy/renewables/canadian-cleantechs-335-surge-in-financing-sets-up-record-year)

Recommendation 9 10 11 12 13 14 15

Support Canada's oil and natural gas industry in building a low-emissions, globally competitive future.

PROGRESS — MARGINAL
key priority

REMAINING NEED FOR ACTION

COMMENTS:

During the interview process, supporting the energy transition, particularly enabling the oil and gas sector to leverage on expertise and ensure a just transition, was the 4th most common need for action in the short term. Transitioning the oil and gas sector was also ranked as the most commonly cited risk for Canada. Both results point to the importance of Recommendation 12, as well as to the fact that there has been only marginal progress, suggesting there is still much to do with this very complicated issue. The bullets below highlight some of the progress that has been made since 2019:

- In April 2020, a $750-million Emissions Reduction Fund was announced to reduce methane and GHG emissions in the oil and gas industry. This fund provides primarily repayable funding to eligible onshore and offshore oil and gas firms to support their investments to reduce GHG emissions by adopting greener technologies.[62]
- Within the same announcement, the federal government stated intentions for up to $1.72 billion in funding, including funding to the governments of Alberta, Saskatchewan, and British Columbia, and the Alberta Orphan Well Association, to clean up orphan and/or inactive oil and gas wells.[63]
- The Government of Canada has a commitment in place to reduce methane emissions from the oil and gas sector by 40-45% below 2012 levels, by 2025.[64]
- Of the 20 Canadian energy firms publicly traded on the S&P/TSX Composite Index, 12 (60%) have existing emission reduction targets.[65]
- The Canadian government has committed to phasing out "inefficient fossil fuel subsidies" by 2025.[66] According to the International Institute for Sustainable Development (IISD), federal fossil fuel subsidies reached at least $600M in 2019,[67] jumping to at least $1.91 billion in 2020, although the majority of this increase is attributed to measures announced in the wake of COVID-19.[68]
- CPA Canada has recently published a "Consultation Report on the Canadian Energy Sector's Transition to Net-Zero" with the aim to identify critical gaps in order to achieve a unified national position that will enable Canada to thrive in the low-carbon transition and remain globally competitive in the net-zero economy.[69]

- The Alberta Carbon Trunk Line (ACTL) system became operational in 2020. It represents a large-scale CCUS system, which was "designed as the backbone infrastructure needed to support a lower carbon economy in Alberta, the ACTL system captures industrial emissions and delivers the CO_2 to mature oil and gas reservoirs for use in enhanced oil recovery and permanent storage."[70] It represents the world's largest capacity pipeline for CO_2 from human activity, and can transport "up to 14.6 million tonnes of CO_2 per year, representing approximately 20% of all current oil sands emissions."[71]
- In June of 2021, Pembina Pipeline Corporation and TC Energy Corporation announced plans to jointly develop a world-scale carbon transportation and sequestration system that will be capable of transporting more than 20 million tonnes of CO2 annually, based on leveraging existing pipelines and a newly developed sequestration hub, the Alberta Carbon Grid.[72]
- In June 2021, companies operating approximately 90% of Canada's oil sands production announced plans to achieve net-zero GHG emissions from oil sands operations by 2050. The Oil Sands Pathway to Net-zero initiative is comprised of Canadian Natural Resources, Cenovus Energy, Imperial, MEG Energy and Suncor Energy.[73]

Recommendation 9 10 11 12 13 14 15

Accelerate the development of a vibrant private building retrofit market.

PROGRESS — MARGINAL
need to follow up and capitalize

REMAINING NEED FOR ACTION

COMMENTS:

During the interview process, building retrofits was tied as the 4th greatest opportunity for Canada, which is consistent with the ISF's Capital Mobilization plan, which noted that retrofits represented the lowest hanging fruit in terms of Canada achieving its 2030 Paris agreement emission reduction targets. There has been marginal progress on this recommendation and implementation continues to lag:

- In September 2020, the Task Force for a Resilient Recovery published its recommendation report, which proposed $27.25 billion in government investment over five years in climate-resilient and energy-efficient buildings.[74]
- In October 2020, $2 billion in funding directed towards building retrofits through the Canada Infrastructure Bank was announced.[75] Following the announcement, in March 2021, CIB published details surrounding the retrofit funding eligibility requirements.[76]
- In October 2020, Efficiency Canada published "Strengthening Canada's Building Code Process to Achieve Net-Zero Emissions." [77]
- In November 2020, it was announced that under the Greening Government Strategy, all new federal buildings (including build-to-lease and public-private partnerships) will be net-zero carbon and require a climate change risk assessment incorporating both current and future climate conditions.[78]
- Budget 2021 includes $4.4 billion in funding to the Canada Mortgage and Housing Corporation (CMHC) to assist homeowners complete deep home retrofits through interest-free loans of up to $40,000.[79]
- In April 2021, Indigenous Clean Energy (ICE) published "The Value Proposition for Financing Energy Efficient Homes in Indigenous Communities Canada-Wide."[80]
- On July 14, 2021, the Toronto City Council approved a Net-zero Existing Buildings Strategy as part of achieving the City's Transform TO goal to reduce community-wide emissions to net-zero by 2050 or sooner.[81]

Recommendation 9 10 11 12 13 14 15

Align Canada's infrastructure strategy with its long-term sustainable growth objectives and leverage private capital in its delivery.

PROGRESS — MARGINAL
key priority

REMAINING NEED FOR ACTION

COMMENTS:

During the interview process, taking advantage of infrastructure was the 3rd most recurring theme mentioned by interviewees. There has been some progress on this recommendation, but much more needs to be done, particularly in terms of unlocking private sector investment in Canada's net-zero transition:

- On October 1, 2020, Prime Minister Justin Trudeau announced $10 billion in new major infrastructure initiatives through the Canada Infrastructure Bank (CIB).
- Following up on this announcement, on March 4, 2021, the federal government announced $2.75 billion in funding over five years, starting in 2021, to enhance public transit systems and switch them to cleaner electrical power, including supporting the purchase of zero-emission public transit and school buses.[82]
- The CIB maintains a target to invest $1 billion in Indigenous infrastructure projects across its five priority sectors: Clean Power; Green Infrastructure; Public Transit; Broadband; and, Trade & Transportation.[83]
- In July 2021, Transport Canada, Infrastructure Canada, Finance Canada, and the CIB announced progress on plans to develop a high frequency rail line from Toronto to Quebec City, connecting Toronto, Ottawa, Montreal and Quebec City.[84]
- On July 29, 2021, Infrastructure Canada released "Recommendations for Moving Forward on Canada's First National Infrastructure Assessment."[85]

Recommendation 9 10 11 12 13 14 15

Engage institutional investors in the financing of Canada's electricity grid of the future.

PROGRESS — MINIMAL

lots of room to go

REMAINING NEED FOR ACTION

COMMENTS:

During the interview process, supporting the energy transition was the 4th most frequently cited short term need for action, while developing a North-South electricity grid was rated as the 8th greatest opportunity. Unfortunately, despite much talk, there has been limited progress on developing a sustainable and efficient electricity grid for Canada.

- In May 2020, the Northeast Electrification and Decarbonization Alliance and HEC Montreal published a report on Northeast USA-Canada Decarbonization.[86] The report provides the perspective that deeper regional integration in the electricity sector across the North American Northeast can bring substantial emission reductions through the deployment of renewable energy.
- On April 13, 2021, the CIB and ITC Investment Holdings (ITC) signed an agreement in principle to invest $1.7 billion in a Lake Erie Connector project. The project is a proposed 117 km underwater transmission line connecting Ontario with the PJM Interconnection, the largest electricity market in North America.[87]
- NRCan's Smart Grid Program, which was launched in 2018, is allocating funds of $100 million over four years to utility-led projects to reduce GHG emissions, better utilize existing electricity assets and foster innovation and clean jobs.[88]
- On June 2, 2021, NRCan launched "The Smart Renewables and Electrification Pathways Program" (SREPs), a $964 million program to support renewable energy and grid modernization projects that will lower emissions.[89]
- On July 14, 2021 Transition Accelerator launched "Canada Grid," a new initiative focused on accelerating electricity grid integration to Power Canada's Net-Zero Future.[90]

B. Summary of Interviews

This section discusses the highlights of the 34 interviews we conducted with various sustainability and sustainable finance experts from across Canada, including three of the four members of the Canadian Expert Panel on Sustainable Finance. The list of interviewees can be found in Exhibit 1 at the end of this report. The experts were chosen to provide diverse perspectives on the numerous sustainable finance issues facing Canada today.

One of the striking observations that arose from the interviews is that the CEP clearly hit the nail on the head in terms of identifying key issues, since almost all the topics came up during our conversations. Unfortunately, lack of progress on many of the issues that were addressed in the recommendations was a recurring theme, which indicates that we still have to move quickly and decisively on many of these issues to implement these suggestions.

Overall, the interviews provided support for the conclusions of our landscape review in Section A in terms of progress towards achieving specific recommendations. They also provided additional insights regarding the perceived importance and potential impact of making progress with respect to several of the recommendations, as well as painting a broader picture of key sustainable finance issues in Canada.

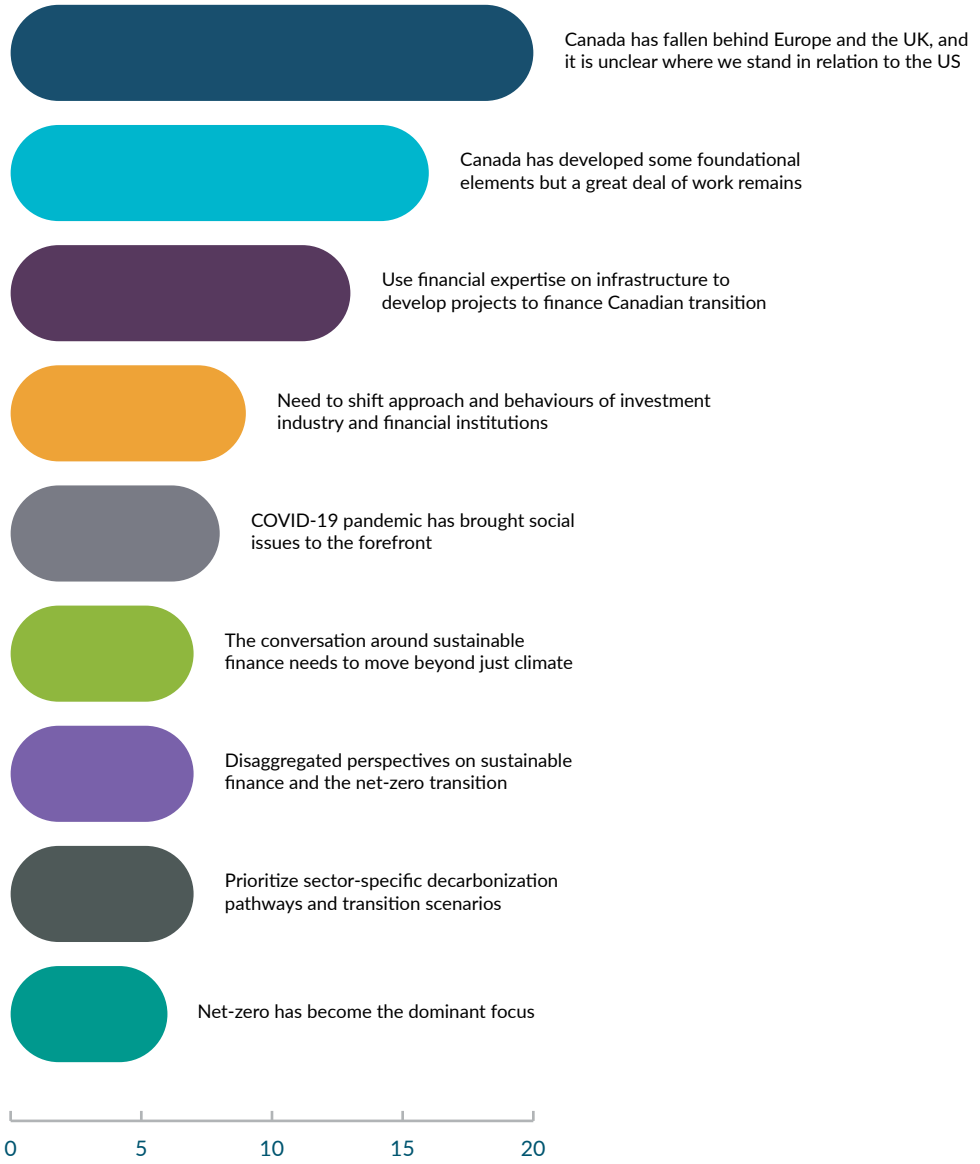
We have organized our discussion of the interviews into four categories: main recurring issues and themes; potential needs for short-term action; key opportunities; and key risks and impediments.

MAIN RECURRING ISSUES AND THEMES

Figure 2 depicts the nine most frequently referenced sustainable issues throughout the interviews and notes the number of times a particular issue was referenced by interviewees. We discuss each of these issues in order of the number of times they were referenced.

FIGURE 2:

Main Recurring Themes and Concerns



Canada has largely fallen behind Europe and the UK, and it is unclear where we will stand in comparison to the United States.

Many interviewees felt that Europe and the UK have been setting the tone in terms of discussions and actions related to sustainable finance issues and that Canada remained relatively neutral during the Trump Administration in the US. This leaves us playing catch-up as it is clear that the Biden Administration will be moving very quickly. The general consensus among interviewees was that the private financial sector has been moving faster than government, particularly with regard to the important foundational elements of disclosure and fiduciary duty.

> "A notable takeaway for the Expert Panel was Canada's trailing progress relative to other peer jurisdictions in mobilizing sustainable finance with purpose and coordination. Canada has the financial acumen and innovative capacity to be a model leader in transitioning a resource-rich economy toward a net-zero, climate-smart future. But it will require swifter action, determined investment and more committed alliance between business, government and civil society."
>
> Barb Zvan, President and CEO, University Pension Plan
> Member of Canadian Expert Panel on Sustainable Finance

> "Europe is way ahead…Canada is making the right noises and starting, but it really does feel, because we are risk-averse and resource-heavy, we are taking longer to start, and longer to catch up…and that is troubling."
>
> Pamela Steer, Advisory Board, Institute for Sustainable Finance

Canada has started to work on some of the foundational elements laid out in the Expert Panel recommendations necessary to accelerate sustainable finance, but there is still a great deal of work to do. Now it is time to execute.

Bill C-12, the Canadian Net-Zero Emissions Accountability Act, has passed in the House of Commons and the Senate and will now become law.[91] This has firmly established the destination for Canada; however, the specific pathways necessary to arrive at this destination remain uncertain, particularly with respect to Canada's oil and gas sector. The March 2021 Supreme Court of Canada ruling on the constitutionality of federal carbon pricing[92] has established a robust precedent and sends a strong signal to market participants.

Many participants were encouraged by the establishment of the Sustainable Finance Action Council and the Net-zero Advisory Body. The role of these organizations could prove to be essential catalysts in Canada's acceleration of sustainable finance. The creation of the Canada Infrastructure Bank (CIB) is largely seen as a positive development, but some remained skeptical regarding its effectiveness thus far.

> "Historically, private industry was slower to get its head around sustainable finance, the academics and NGOs were ahead, government was slow…but I think the Expert Panel effort and the extensive engagement and outreach that supported the recommendations acted to a certain extent as a catalyst for some of the private thinking that had been missing."
>
> Kathy Bardswick, Chair, Sustainable Finance Action Council

Use of financial expertise to develop large infrastructure projects for net-zero transition in Canada

There has been some recent activity in the infrastructure space in Canada, with several developments discussed in Section A with respect to Recommendation 14. For example, based on recent information from the CIB website, the Bank is now participating in 23 projects.[93]

However, despite several positive signs, interviewees were virtually unanimous regarding the lack of attractive and financeable infrastructure projects to support net-zero transition within Canada. As a result, it was noted that many large Canadian institutional investors are deploying capital in other markets. With the infrastructure investment expertise that is housed within Canadian institutional investors there is a need to access this talent to come up with solutions for made in Canada investments.

> "We have invested in BC and Canada, but not because it comes from a specific mandate…I think there continues to be opportunity for the Canadian Infrastructure Bank to provide leadership in fully engaging long term institutional capital such as ours in respect to developing infrastructure projects in the country."

Jennifer Coulson, Vice President, ESG, British Columbia Investment Management Corporation

The need to shift the approach and behaviours of Canada's investment industry and financial institutions

The Potential for Developing Canadian Battery and ZEV Supply Chains

CLEAN ENERGY CANADA AND THE TRANSITION ACCELERATOR

A significant re-channeling of investments away from fossil fuel projects and towards the clean energy economy will be needed in the coming decades. Batteries—used to store clean electricity and power our future vehicles, buildings and industry—will be the lynchpin of this transition. According to the International Energy Agency, the equivalent of 20 battery gigafactories must be built each year for the next ten years to meet the world's net-zero emissions by 2050 target. This translates into a global battery market valued at over $100 billion by 2030 and a 500% increase in demand for battery minerals like graphite, lithium, and cobalt by 2050. Right now, 80% of the world's batteries are produced in Japan, South Korea, and China. In fact, the whole of the global automotive supply chain is facing significant disruption as a result of the push to electrification. With over 500,000 direct and indirect automotive sector jobs across the country, electrification represents both a significant threat and opportunity for Canada.

Fortunately, Canada is home to all the metals and minerals needed in the battery supply chain. Our track record of responsibly produced resources and abundant clean electricity to power low-carbon operations means we'll be particularly competitive in a world increasingly looking for sustainable batteries and input materials. BloombergNEF has ranked Canada as 4th in the world for its battery supply chain potential, and the EU and US view Canada as a secure source of sustainable raw materials. Canada is also home to a number of globally competitive Zero Emission Vehicle (ZEV) companies, particularly in the medium to heavy duty space.

Developing Canada's battery-and the broader ZEV supply chain will help anchor our auto sector (second-largest export) and ensure that we capture the jobs and value created in the transition to electric vehicles. The federal government has acknowledged Canada's battery advantages and has taken initial steps to advance the industry. Recent investments supporting EV assembly in Ontario and battery module production in Quebec are putting Canada on the EV and battery map. Further commitments made in the 2021 federal budget and strategic investments by the Government of Quebec will help grow some parts of the supply chain and keep Canada moving in the right direction.

However, a recent report emerging from an industry roundtable convened by Clean Energy Canada has revealed that the efforts to-date are insufficient given the scale of this opportunity and the speed at which other countries are moving to capture it. For instance, in 2017, the EU established the European Battery Alliance, which has dedicated over €6 billion to building the region's supply chain. Already the EU has over 15 large-scale battery-cell factories under construction. President Joe Biden's infrastructure bill earmarks $6 billion for battery materials processing and manufacturing projects, with another $140 million allocated for a rare earths demonstration plant.

The window of opportunity to enter the battery market and to help our broader sector compete in the ZEV space is now, and more is needed to support the build-out of Canada's domestic industry. In short order, Canada needs to develop an action plan to expand and promote its clean-battery advantage and an ambitious industrial road map to support the automotive sector's transition to ZEV production. Building on this, Canada must work with the U.S. to launch a North American Battery Alliance to compete with the ambitions of Asia and Europe. The federal and provincial governments also need to work to with the broader industry and labour unions to develop and launch a strategy to attract investment and ensure Canada remains a key player in future global automotive market.

Several interviewees noted that there is a challenge with respect to adjusting the Canadian financial institutions' processes, in order to fund smaller projects, and to be increasingly more agile than the "old" system, which was based on large and less distributed projects.

> "I think that Canada having a very large pension fund like CPPIB, we have the resources, and the expertise of a long-term investor who can take on more risk of undergirding transition technologies, companies, and industries… We haven't necessarily seen CPPIB doing that to any significant extent, but that is a role they could play in Canada…as it's an enormous pool of long-term finance, that if allocated to that task, it could be a real advantage to the economy and ultimately to Canadians."
>
> Cynthia Williams, Osler Chair in Business Law, Osgoode Hall

COVID-19 has brought social issues to the forefront.

The conversation around sustainable finance needs to move beyond just climate.

Numerous interviewees noted that the COVID-19 pandemic has resulted in social issues coming more to the forefront — specifically Indigenous reconciliation in Canada, and diversity, equity, and inclusion. Relatedly, many interviewees identified the need for sustainable finance conversations to extend beyond climate, because of the importance of social issues, and due to the interconnection between climate change, economic prosperity, and social issues in many instances.

Diversity, Equity and Inclusion (DEI) issues have risen to the forefront with the impacts of COVID-19 being felt unequally across communities. Public and private sector organizations are expected to demonstrate intention, attention, dedicated-demonstrable inclusion practices and zero tolerance. National securities Instrument 58-101 Disclosure of Corporate Governance Practices has a diversity and disclosure requirement in place, and amendments to the *Canada Business Corporations Act* effective January 2020 requires corporations governed by *CBCA* with publicly-traded securities to provide diversity disclosure regarding women on the board and senior management consistent with requirements under Canadian securities laws, and corresponding disclosure respecting Indigenous persons, members of visible minorities, and persons with disabilities.

Efforts to implement the recommendations by the Truth and Reconciliation Commission continue and the federal government and province of British Columbia have enacted legislation to enshrine Canada's commitment to the UN Declaration on the Rights of Indigenous Peoples and develop action plans. Private sector businesses and the financial sector are also looking to increase partnerships and equity investment opportunities in projects with Indigenous people. There is a great deal of work still required.

Biodiversity issues must also be addressed. In its 2020 Global Risks Report, the World Economic Forum (WEF) rated biodiversity loss and ecosystem collapse as one of the top five risks over the next 10 years.[94] The WEF further estimates that more than half of the world's economic output is moderately or highly dependent on nature. Statistics like these demonstrate the high dependency of the global economy on nature, indicating a need for nature-related data. It is with this need in mind that the Taskforce on Nature-related Financial Disclosures (TNFD) was formed with the intention of providing "a framework for organisations to report and act on evolving nature-related risks, to support a shift in global financial flows away from nature-negative outcomes and toward nature-positive outcomes."[95]

> "What's really changed has been the participation and involvement of Indigenous communities in infrastructure projects…the intersection of the 'E' and the 'S' in the sustainable finance agenda"
>
> Lindsay Patrick, Managing Director and Head, Sustainable Finance, RBC

> "There is some confusion around the concept of sustainable finance…we need a common definition and to have it include Indigenous perspectives. Indigenous issues are limited to the "S" in ESG. Indigenous worldviews permeate across all 3 pillars — Environmental, Social and Governance."
>
> Hillary Thatcher, Senior Director
> Project Development Indigenous Infrastructure, Canada Infrastructure Bank

A largely disaggregated mosaic of perspectives on sustainable finance and the net-zero transition in Canada

Many interviewees noted problematic intra-federal and inter-provincial communication issues, as well as a lack of engagement with market participants. The consensus was that there is a need to establish a more centralized voice and perspective for the country, as well as strengthened communication channels. Many interview participants expressed hope that the recently established Sustainable Finance Action Council (SFAC) could play an important role in bridging the gap between the Canadian public and private sectors on sustainable finance.

> "That notion of public sector and private sector getting in a room to figure things out…to me, this is the only way it is going to work."
>
> Andy Chisholm, Board Director, RBC
> Member of Canadian Expert Panel on Sustainable Finance

> "To transition to net-zero and develop a more competitive and sustainable economy, the public and the private sector will need to work together more coherently and cooperatively."
>
> Tiff Macklem, Governor, Bank of Canada
> Member of Canadian Expert Panel on Sustainable Finance

Establishing sector-specific decarbonization pathways and transition scenarios within a Canadian context

Firms and investors are rapidly setting net-zero targets without clear pathways to achievement. Many interviewees believe that both the investment and corporate community are struggling with this element. Many identified the importance of the pilot project in process by OSFI, the Bank of Canada, and several Canadian financial institutions to use climate change scenarios relevant to Canada to better understand the risks to the financial system with respect to a transition towards a low-carbon economy.[96]

Several interviewees also expressed optimism with respect to the role that the newly formed Net-Zero Advisory Body can play in establishing net-zero pathways. The Advisory Body will serve as an independent group of experts with a mandate to engage with Canadians and to provide advice to the Minister of Environment and Climate Change, the Prime Minister, and Cabinet to achieve net-zero emissions by 2050.[97]

> "The sooner stakeholders including government, industry, and scientists can align on sector decarbonization pathways… we'll have a clearer view of where we're headed, and the easier it will be to work together on solutions."
>
> Nicole Vadori, Head of Environment, TD Bank

Net-zero has become the dominant focus of sustainable finance since the Expert Panel Recommendations were released two years ago.

Bill C-12, the *Canadian Net-Zero Emissions Accountability Act* was passed in June 2021, in the House of Commons and the Senate and will now become law.[98] This has firmly established the destination for Canada; however, the specific pathways necessary to arrive at this destination remain uncertain. Many industry participants are encouraged by the establishment of the Net-zero Advisory Body (NZAB) and their focus on recognizing the difference between incremental changes and net-zero. The NZAB can provide the direction and the SFAC can develop the solutions for financing Canada's transition to net-zero; however, execution by both the private and public sectors will determine the results.

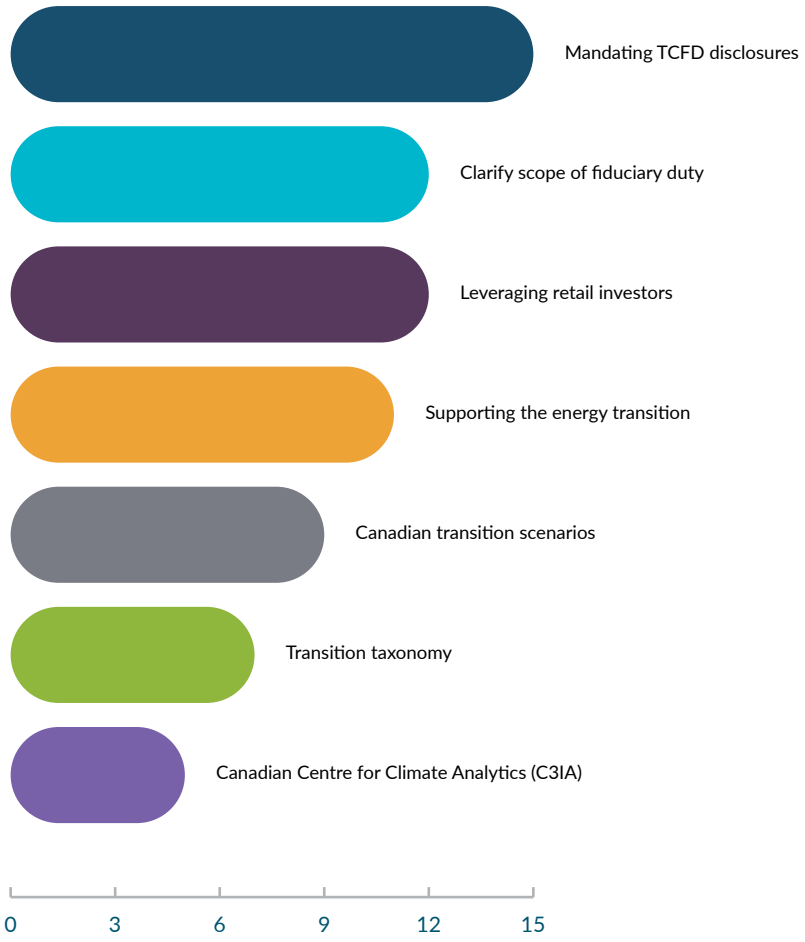
> "Net-zero commitments are going to drive some faster action. Corporates and governments, once they've made these commitments public… will need to operationalize them… we've never been able to make our pathway in Canada to date…the bigger question is what is going to change?"
>
> Martin Grosskopf, VP, Portfolio Manager and Director, Sustainable Investing, AGF

POTENTIAL NEEDS FOR ACTION TO BE FOCUSED ON IN THE NEAR TERM

The key items identified in order to move forward on sustainable finance over the near term are depicted below. In particular, Figure 3 identifies the seven most frequently referenced potential needs in the near term. We discuss each of these in order of the frequency in which they were mentioned during the interviews.

FIGURE 3

Potential needs for action to be focused on in the near term



Mandating disclosures in alignment with the Task Force on Climate-related Financial Disclosures (TCFD) recommendations

Recommendation 5 was recognized as the most important initiative to advance in the near term in order to catalyze further market developments, with almost half of interviewees mentioning the importance of mandating TCFD disclosures. The noted importance of this issue is consistent with the November 2020 joint statement issued by the CEOs of Canada's eight largest pension plan investment managers, expressing support for companies and investors to provide "consistent and complete" ESG information by leveraging the SASB and TCFD frameworks.[99]

Progress has definitely occurred in terms of disclosures over the past two years. For example, according to a Milani study, as of 2020, 71% of S&P/TSX Composite Index issuers prepared dedicated ESG reports, versus 58% in 2019 and only 36% in 2016, while 56% of these companies reported in alignment with the SASB guidelines, up from 36% in 2019, and only 6% during 2018.[100] With respect to TCFD reporting, and as noted previously, by August of 2021, there were 94 Canadian TCFD Supporters, including 59 financial institutions,[101] while Milani indicates that during 2020, 42% of S&P/TSX Composite Index issuers reported in alignment with the TCFD recommendations, up from 30% in 2019. While Canada is not alone in making slow progress on sustainability reporting, the G7 has stated support for mandatory disclosures in alignment with the TCFD recommendations,[102] while New Zealand and the UK have announced legislation to make TCFD aligned reporting mandatory.[103]

> "I go back to company disclosures…it's going to be a journey. We need to standardize non-financial reporting for all corporations so we can all have reliable data and insights to develop sustainable investment products; the inconsistency in non-financial or ESG data makes it difficult for us to have reliable insights."
>
> Fate Saghir, Senior Vice President, Sustainable Investing, Mackenzie Investments

Clarifying the scope of fiduciary duty

Recommendation 6, clarifying the scope of fiduciary duty, was widely recognized as a crucial initiative to act on in the near term. Despite many market participants widely recognizing that it is a fiduciary obligation to consider the implications of climate change risk, some remain hesitant. There is a gap in understanding and practice. Legal opinions and market forces have largely steered this conversation as discussed in Section A regarding Recommendation 6. However, the government and relevant regulatory bodies have remained relatively quiet on the topic.

> "I think one of the areas from the asset manager and investor side that still remains a challenge is the lack of clarity around what are the duties around the consideration of ESG factors in the investment process. Particularly on the asset owner side — pensions are looking for clarification."
>
> Margaret Childe, Head of ESG, Canada, Manulife Investment Management

> "On clarifying the scope of fiduciary duty and climate change…Recommendation 6.1 — on the public statement…we can make that now…we have so much research behind that point…I don't think that's going out on a limb at all."
>
> Catherine McCall, Executive Director, Canadian Coalition for Good Governance

Leveraging Canada's Retail Investor Base to Drive Sustainability

THE RESPONSIBLE INVESTMENT ASSOCIATION

Canadian retail investors have been piling into responsible investments (RI) that incorporate environmental, social and governance (ESG) criteria. Data from Morningstar shows that a staggering $3.3 billion in assets flowed into retail ESG products in 2020, more tripling the figure for 2019. This growth is driven by investor demand and a greater supply of products with a focus on sustainability. In 2020 alone, Canadian fund companies launched 41 new mutual funds and exchange-traded funds (ETFs) with an ESG or sustainability focus. Another 26 were launched in the first half of 2021. So, with record assets flowing into a rapidly growing landscape of ESG products, there is clearly strong growth occurring in Canada's retail market for responsible or sustainable investments.

While this growth is positive and exciting to see, there is still a long way to go. According to the Investment Funds Institute of Canada (IFIC), there are approximately $2 trillion in assets held in Canadian-domiciled mutual funds, and just north of $300 billion in ETFs. Only $26 billion or roughly 1% of those assets are invested in mutual funds and ETFs that are marketed as sustainable or responsible, according to Morningstar. So, sustainability-focused funds are still a drop in the bucket within the Canadian retail market.

However, the recent momentum points to tremendous upside potential. Mobilizing the retail market could unlock some $2 trillion for sustainability.

Closing the Gap Between Investors and Advisors

The 2020 RIA Investor Opinion Survey, which is based on an Ipsos poll of 1,000 Canadian retail investors, found that 75% of respondents would like their financial advisor to inform them about responsible investments, but only 28% had ever been asked if they're interested in RI options. So, nearly half (47%) of respondents are interested in RI but not being served. This illustrates a major gap between investors and advisors.

The Responsible Investment Association (RIA) is working to close that gap by providing education for advisors and engaging with regulators. On the education front, approximately 2,000 professionals have enrolled in the RIA's education program for retail advisors.

And on the regulatory front, the RIA has sent engagement letters to the Mutual Fund Dealers Association (MFDA) and the Investment Industry Regulatory Organization of Canada (IIROC) to advocate for ESG to be part of the Know-Your-Client (KYC) process. The RIA has proposed policy amendments that would encourage advisors to consider that their clients may have investment objectives that focus on ESG or sustainability preferences, and that advisors should seek to gain an understanding of these preferences. The RIA points to existing regulations in Australia and Europe to show that this is not a novel concept. Acceptance of these proposed amendments would be a major catalyst for responsible investing in Canada's retail market.

Conclusion

There is very strong growth of ESG or responsible investing occurring in Canada's retail market, but there is still a long way to go as assets in ESG-focused funds still only make up a small portion of the total market for mutual funds and ETFs.

Many investors are interested in sustainability but are underserved by their advisors. As a result, the RIA is delivering ESG education for retail advisors and engaging with regulators to position clients' sustainability preferences as potential investment objectives that advisors should investigate. An advisor base that is educated about ESG and a regulatory framework that encourages advisors to assess their client's sustainability preferences would go a long way to unlocking some $2 trillion for sustainability-focused investing in Canada's retail market.

Engaging the public and leveraging the retail investor base was tied as the second most frequently cited short-term need for action. This comment is closely related to Recommendation 2, to provide Canadians the opportunity and incentive to connect their savings to climate objectives. Unfortunately, interviewees felt that this has largely been untapped. Many felt that offering increased contribution space and a "super tax deduction" for contributions to registered retail savings plans earmarked for accredited climate-conscious products, would prove to be an extremely impactful initiative. However, based on current public knowledge, no progress has been made on this initiative to date.

> "There doesn't seem to be a lot of market demand from the general public…we hear generally around clients where they indicate the importance of sustainability to their values, but we're not seeing this translate yet into certain portions of the market, or with clients more broadly."
>
> Alanna Boyd, Senior Vice-President, Chief Sustainability Officer, Sun Life Financial

Supporting the energy transition

Supporting the energy transition, and the oil and gas sector in particular, was the 4th most commonly cited need for immediate action. Several of the responses were nested in relation to the International Energy Agency's (IEA) recent report, "Net-zero by 2050: A Roadmap for the Global Energy Sector," which states that in a net-zero scenario, gas demand would decline 55% to 1,750 billion cubic metres and oil demand would decline by 75% to 24 million barrels per day (mb/d) by 2050, from around 90 mb/d in 2020.[104]

We noted several areas of progress in this regard in Section A in our discussion of Recommendation 12. Unfortunately, the general consensus is that while some progress is in motion, we are simply moving too slow on this front. Several interviewees mentioned that transition bonds could be an important financing mechanism for the transitioning of the oil and gas sector, and look forward to the transition taxonomy currently being developed by the CSA Transition Taxonomy Technical Committee.

> "We need to come to grips with where the capital is needed to make the biggest gains in emission reductions…this is the challenge Canada is struggling with…how to create 200 megatons of reductions…well, one of the best opportunities is to work with the oil and gas industry to develop and scale technologies that can help do that …. It could require 10s of billions of dollars, and we need to determine where that best comes from"
>
> John Stackhouse, Senior Vice President, Office of the CEO, RBC

Canadian transition scenarios

Please refer to the discussion following Figure 2 “Main recurring themes and issues”, item “Establishing sector specific decarbonization pathways and transition scenarios within a Canadian context.”

Transition taxonomy

As discussed in the item above (“Supporting the energy transition”), many interviewees mentioned the potential importance of the forthcoming transition taxonomy that is under development.

> “There are all the right signals, but the reality of creating investing at scale is still challenging. The challenges of creating a transition finance taxonomy that reflects the realities of Canada’s economy, and is accepted by the international investing community, demonstrates the complexity.”
>
> Karen Clarke Whistler, Principal, ESG Global Advisors

Canadian Centre for Climate Analytics (C3IA)

As mentioned in Section A with respect to Recommendation 4, several interviewees mentioned the importance of improving sustainable finance and climate data, and in particular the creation of the Canadian Centre for Climate Analytics (C3IA), or something along those lines.

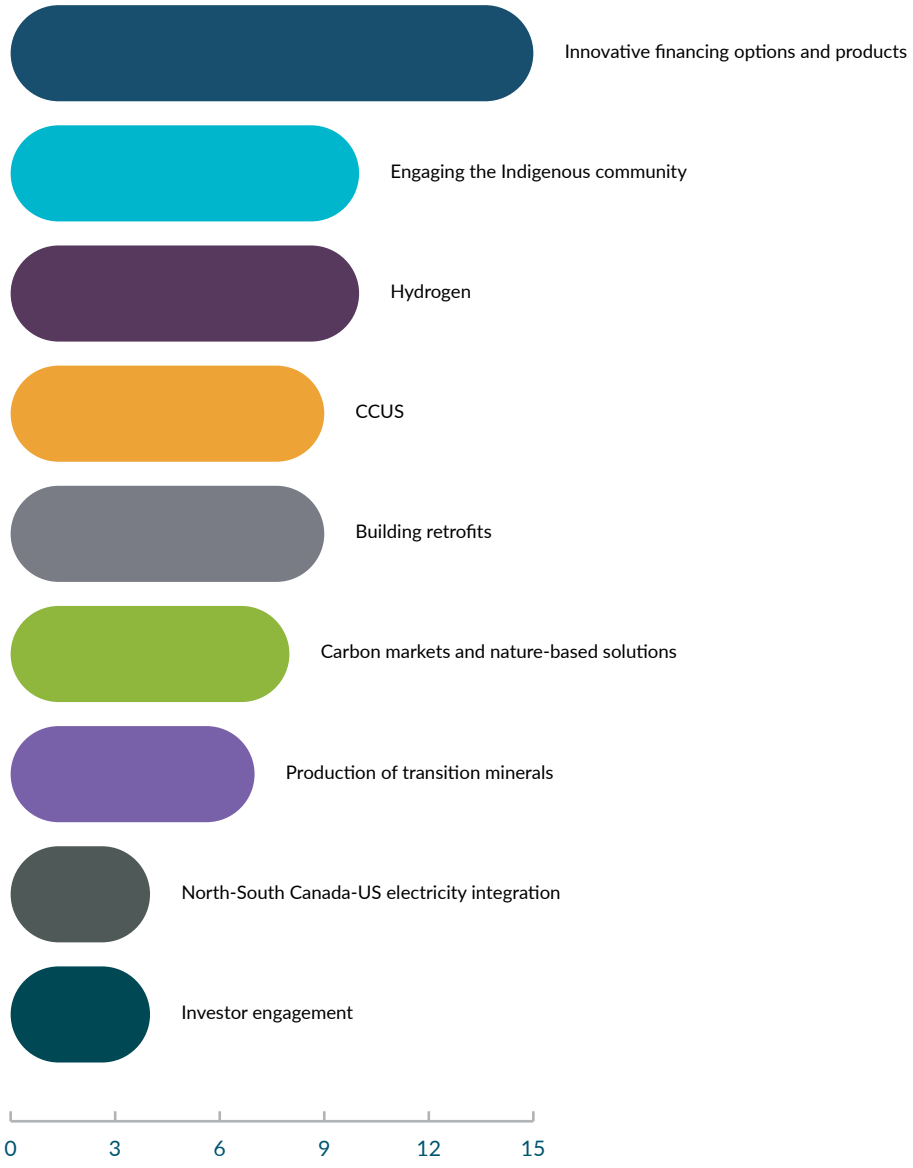
> “The cries for more data is a bit of a red herring, there is a lot of data out there, but it’s not very accessible, in context, for decision-usefulness.
>
> Laura Zizzo, Co-Founder and CEO, Manifest Climate

KEY OPPORTUNITIES

Figure 4 identifies the nine most frequently referenced key opportunities for Canada. We discuss each of these in order.

FIGURE 4

Key Opportunities



Innovative financing options and investment products

The most frequently cited key opportunity for Canada was the development of innovative financing options and investment products that could be crucial drivers of impact from an emissions reduction perspective, as well as in terms of social impact and economic development. While there has been significant growth in investments that integrate sustainable finance considerations, the consensus was that there is currently a general lack of financing options for Canadian cleantech firms.

> "Often in finance we feel there's a trade-off between stability and efficiency. In this case, I think the two are reinforcing. The more efficiently the financial system channels capital to sustainable investments, the more stable the financial system is going to be, as it supports the transition to low-carbon growth."
>
> Tiff Macklem, Governor, Bank of Canada
> Member of Canadian Expert Panel on Sustainable Finance

Engaging the Indigenous community

Engaging the Indigenous community tied as the second most frequently cited opportunity for Canada. Interviewees noted several important components of this engagement. The inclusion of Indigenous communities and perspectives on large infrastructure and natural resources projects within Indigenous territories will be essential for obtaining a social license to operate. There is also an important need to get transmission to provide power to Indigenous communities and to end reliance on diesel fuel. Interviewees also noted that Arctic specific issues are very relevant for Canada, and that Indigenous communities want equity ownership in projects.

Integrating Indigenous perspectives in Canada's transition towards a net-zero economy will be an important piece in reconciliation. Truth & Reconciliation Commission Call to Action 92 calls upon the corporate sector in Canada to adopt the United Nations Declaration on the Rights of Indigenous Peoples and to apply its principles, norms, and standards to corporate policy and core operational activities involving Indigenous peoples and their lands and resources.[105] On May 15th, Bill C-15, the United Nations Declaration on the *Rights of Indigenous Peoples Act* was adopted, and has received Royal Assent. The Act will soon become law. [106]

> "When I look at these portfolios from an Indigenous perspective, they are not very good. Greenwashing at a big asset allocator level is an issue…If the Indigenous community can be put at the front and center of some of these products, that would be great — there are very few true ESG like funds that really understand and measure impact on the ground."
>
> Jeff Cyr, Managing Partner, Raven Indigenous Capital Partners

> "Not to be underestimated is Indigenous relations. The inclusion of Indigenous voices is huge for Canada…many Indigenous groups have not been treated fairly, and I think we are on the cusp of a new chapter for Canada."
>
> Milla Craig, Founder and President, Millani

Low-carbon hydrogen and CCUS: Enabling a net-zero world

THE TRANSITION ACCELERATOR

The Expert Panel on Sustainable Finance's final report references hydrogen and carbon capture utilization and storage (CCUS) as promising innovations. Since then, there has been significant progress made in these spaces with the release of the federal government's Hydrogen Strategy for Canada, the launch of Canada's first hydrogen HUB and recent high-profile hydrogen project announcements, such as Air Products' multi-billion dollar plan to build a net-zero hydrogen energy complex in the Edmonton Region.

Low-carbon hydrogen is a vital component of the future clean energy system. The Hydrogen Strategy for Canada projects that it could deliver up to 30% of Canada's end-use energy by 2050. Although economy-wide electrification is the primary solution to reach net-zero by 2050, some sectors are not well-suited to electrification. For instance, low-carbon hydrogen is the fuel of choice to decarbonize heavy freight and transportation (e.g. heavy trucks, trains, ships and planes) because the weight of the batteries needed to move heavy vehicles simply is too great for efficient transport.

Canada is also one of the lowest cost places to make low-carbon hydrogen in the world, giving us a global competitive advantage and the opportunity to become a leading hydrogen producer, user and exporter. For instance, "green" hydrogen (made through the electrolysis of water) can be made in Canada for about the same price as wholesale diesel and "blue" hydrogen (made by upgrading natural gas paired with carbon capture storage and use (CCUS)) can be made for about half the wholesale cost of diesel. Canada has world-leading experience in CCUS as well as amenable geology to permanently store carbon. Of course, no matter how hydrogen is produced, its carbon intensity is what is most important, and it is essential to measure full lifecycle carbon intensity in real time and have the intensity verified by a third party.

Since the production of blue hydrogen requires the same, skills, talent, infrastructure and natural resources traditionally used in the oil and natural gas sector, it also offers a significant opportunity to ensure a just transition for workers. Development of hydrogen can help support the industry in building a low-emissions, globally competitive future, as was recommended in the Expert Panel's report.

To realize these opportunities, capitalize on Canada's competitive advantage and become a low-carbon hydrogen leader, Canada must act now. The world is moving quickly and the race to become a hydrogen exporter is on, with countries like Australia and Saudi Arabia already making hydrogen shipments to Japan. To ensure we're acting quickly to take advantage of this opportunity, The Transition Accelerator is working with stakeholders to set up hydrogen HUBs, which are designed to accelerate the development of regional hydrogen economies in locations across the country with the development of hydrogen fuel markets which will drive investment in the production of low-cost, low-carbon hydrogen. These HUBs will later be connected to others across Canada to break the cycle of insufficient hydrogen supply and demand, and achieve sufficient scale for a strong Canada-wide hydrogen economy while troubleshooting any issues and de-risking investment.

Development of hydrogen tied as the second most frequently cited opportunity for Canada. Interviewees noted some progress being made and noted the importance of not letting this opportunity pass us by. For example, the hydrogen sector has the potential to create domestic market revenue of up to $50 billion per year by 2050, while internationally, the demand for hydrogen is expected to reach $2.5 trillion by 2050.[107] The discussion of progress on Recommendation 11 in Section 1 mentions several areas of progress in this regard including NRCan's announcement of a Hydrogen Strategy for Canada in December 2020.

> "An opportunity here is that you can make hydrogen from fossil fuels in a way where the carbon intensity can be about the same, or in some cases lower, than the carbon intensity of hydrogen made by electrolyzing water. There is a path forward to use our fossil fuel resources in a way that is compatible with a net-zero world. Using hydrogen to decarbonize heavy transport/industry or buildings that are difficult to address scope 3 emissions, it is an option for us, but Canadian companies have not fully embraced this yet."
>
> Dan Wicklum, President and CEO, Transition Accelerator

Carbon capture, utilization, and storage (CCUS)

Many interviewees identified CCUS as an important technology that needs to be developed and implemented in order to assist in decarbonizing Canada's energy and heavy industry sectors. It was felt that, as a global leader in responsible fossil fuel development, Canada has a significant opportunity to export these technologies globally in support of the low-carbon transition.

> "Carbon Capture and Storage — hidden secret that there is tremendous momentum in innovation, costs are coming down. Expertise in Canada and resources that we have to do it are all here. You want to reduce emissions fast; it should be an area of focus."
>
> Peter Tertzakian, Deputy Director, ARC Energy Institute

Building retrofits

Energy Efficiency as Infrastructure — Building Retrofits
EFFICIENCY CANADA

The Expert Panel recommended the need to "Accelerate the development of a vibrant private building retrofit market." It identified the opportunity of deep energy retrofits as one of the most economical means to improve Canada's carbon footprint and resiliency to climate impacts.

Buildings account for almost 18% of Canada's total GHG emissions and to transition to a net-zero emissions economy, there is a need to rethink energy efficiency from the traditional building-by-building approach to one where we are concerned with large-scale, aggregate impacts of improving energy efficiency. This includes GHG emissions from buildings directly, as well as freeing up our existing clean electricity resources to be used for further GHG reductions in areas like transportation and industry.

To reach this type of scale of energy retrofits there needs to be the creation of a functioning market for deep energy savings — where customers can access stable bills, comfort, and indoor air quality benefits that come with energy efficiency in the same way that they can pay for a cell phone plan or lease a car. That convenience on the customer end exists because you have private investors ready to back particular business models and buy portfolios of smaller loans.

Today, private investors are not directing their capital towards substantial energy upgrades because the necessary market structures haven't been created. Investors see high transaction costs for each retrofit project and do not have the data to accurately assess investment risk.

Two opportunities for pursuing Energy Efficiency as Infrastructure are as follows.

1. **Canada Infrastructure Bank (CIB):** The CIB growth plan released at the end of 2020 includes building retrofits with a focus on large-scale, non-residential buildings. This is a "market-creating" role with a goal to direct capital into building retrofits as a new area for productive investment. Strategies to do this could include:
    - Taking the lead on investments and producing data to demonstrate the potential to the private sector.
    - Aggregating individual retrofit projects into larger portfolios that can attract attention of investors.
    - Promoting standardized energy saving measurement and evaluation protocols to reduce transaction costs and enable trade.
2. **Residential Retrofit Gap:** To reach our climate goals energy efficiency services need to be made available in the places people live. There is a need to go beyond the current approach of financing for homeowners or the individual home. Other jurisdictions are exploring the aggregation of residential retrofits to achieve economies of scale, as well as different business models where homeowners can sign a contract that guarantees home comfort and a stable bill, with a third party handling the financing. To see residential retrofits take-off, there is a need to develop new market structures and business models, and for innovations in manufacturing and logistics. This will require more than re-directing financial markets. Efficiency Canada has put together an analysis on how this could be developed in the report: Canada's Climate Retrofit Mission.

Numerous interviewees identified the building sector, Canada's third-highest source of emissions, as a substantial opportunity. This is consistent with ISF's Capital Mobilization Plan for a Low-Carbon Canadian Economy, which identified the building sector as Canada's lowest-hanging fruit with regard to low-cost GHG reductions. Relatedly, accelerating building retrofits was viewed by many participants as a way to unlock large environmental and economic benefits and jobs. The discussion of progress on Recommendation 13 in Section 1 provides several examples of progress on this issue, but there remains much room to go.

> "One of the great value-adds from the CIB is that there is a paradigm shift now, treating buildings as infrastructure…whereas before, infrastructure just meant the old way of doing things."
>
> Corey Diamond, Executive Director, Efficiency Canada

Carbon markets and nature-based solutions

Many interviewees noted that Canada's large geographical size and its expansive ecosystems position us well to provide opportunities for carbon offsets both domestically and to the international community. Some were encouraged by the March 2021 announcement of draft regulations to establish the Federal Greenhouse Gas Offset System.[108]

Natural-based solutions (NBS) include activities such as protection, restoration, and improved land management. Such activities not only improve nature, but also contribute to the removal of greenhouse gasses from the environment. For example, a recent report by Nature United shows that "Natural Climate Solutions can reduce Canada's emissions by up to 78 megatonnes of CO2e annually in 2030."[109] This amounts to over 10% of total Canadian emissions. In addition to being relatively cost-effective, NBS contribute to economic health by creating new jobs or revenue streams for society, including Indigenous communities.

> "We have challenges with respect to fragmented carbon markets, and a need for scale and stability — California is a good example."
>
> Jonathan Hackett, Managing Director and Head, Sustainable Finance, BMO

Canadian opportunity to become a global leader in the production of transition minerals

A 2020 World Bank report finds that the production of minerals, such as graphite, lithium, and cobalt, could increase by nearly 500% by 2050, to meet the growing demand for clean energy technologies.[110] Many interviewees noted that the primary supplier countries of these minerals have weaker ESG performance than Canadian companies. For example, supply chains in some countries are often at risk of conflict issues, human rights abuses, unsafe working conditions, and child labour. It was felt that Canada has a unique opportunity to step in and be the responsible supplier of choice for many of these minerals. For example, relevant minerals and metals mined in Canada utilized in these clean energy supply chains include copper, cobalt, graphite, lithium, and nickel. With respect to the commodity pricing for these key minerals, current pricing trends and forecasts also support substantial economic opportunity.

> "Regarding clean minerals for transition…we have ample resources and green power here…I also agree with the argument that Canada has good regulatory framework and governance to ensure that environmental and social impacts are taken into account and mitigated. Marketing these metals as 'green' and made in Canada would be a huge competitive advantage compared to international competitors."
>
> Large Canadian Pension Fund

> "As a resource-based economy, Canada has a unique opportunity to be a major producer of low-carbon commodities and minerals contributing to a net-zero economy."
>
> Andrew Hall, Director, Sustainable Finance, TMX Group

Leveraging Canada's low-carbon electricity grid for North-South integration into US electricity markets

Optimized Electricity Generation and Transmission — A Story the Provinces Must Write Together

PHILIP DUGUAY, CANADA GRID, TRANSITION ACCELERATOR

The Expert Panel highlighted "optimized electricity generation and transmission" as a vital area of the economy requiring guidance from the federal government, provincial and territorial lawmakers, and the nation's financial institutions. Key to this is creating uniform rules across the provinces for planning, permitting, siting and operations of major segments of the future energy economy, including large interregional transmission projects and municipal district energy systems. The end goal is to make Canada's economy globally competitive in a carbon-constrained world.

We have international examples of how this can be developed from the European Union's "Projects of Common Interest" model or the Australian Energy Market Operator. These examples illustrate how sovereign or federated states can unite to incentivize the development of the macro-grid across jurisdictional boundaries.[3] The US federal government and states are also actively involved in reform processes for interregional transmission projects, as well as expanding the number and footprint of regional transmission organizations (RTOs).

Policymaking for electricity is in the domain of provincial governments, but from a technical and operational standpoint, Canada's future economic competitiveness and ability to reduce greenhouse gas emissions rests upon a national approach to grid integration. To attract investment to the nation's grid, the provinces must align to model, plan, procure and operate interregional transmission infrastructure, most likely along with our American neighbours. With the reform process already underway in the U.S. there is a need to act now in Canada.[4] Harnessing these reforms to drive Canada towards east-west intertie infrastructure and other priorities will create enormous economic benefits for the entire country, harnessing new investment and driving efficiencies from the existing system.

The Canadian Electricity Association forecasts a need to deploy $20 billion a year into the grid until 2035, just to maintain current reliability standards.[5] As Canadians contemplate more than doubling the output of the nation's power grid by 2050, it is foreseeable that investment requirements will rise dramatically. Which raises the question — where will all this capital come from, and how can it be deployed in a cost-competitive manner?

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3 "Projects of Common Interest", *European Commission*, online: <https://ec.europa.eu/energy/topics/infrastructure/projects-common-interest_en>. "About AEMO", *Australian Energy Market Operator*, online: <https://aemo.com.au/about>.

4 "FERC, NARUC to Establish Joint Federal-State Task Force on Electric Transmission" (17 June 2021) *Federal Energy Regulatory Commission*, online: <https://www.ferc.gov/news-events/news/ferc-naruc-establish-joint-federal-state-task-force-electric-transmission>.

5 "Electric Utility Innovation: Toward Vision 2050" (2015) *Canadian Electricity Association*, p12, online: <https://electricity.ca/wp-content/uploads/2017/05/ElectricUtilityInnovation-2.pdf>.

With an improved governance structure, and uniform rules for the development, siting, permitting and operations of interregional transmission projects, provinces can attract institutional investors from Canada and around the world. For example, through an interregional body such as an RTO model, or an energy imbalance market (EIM) structure, provinces and states can cooperate on the development of the macro-grid. This would support crowding in a mix of public and private investment, and deploying new technologies while ensuring an affordable, abundant supply of clean energy electrons for the decarbonization of Canada's communities and industries. Canadian decisionmakers need to approach our own reforms with a diplomatic, industrial policy, and greenhouse gas-abatement mindset. It is the lack of governance and a unified vision — and not technology — which pose the largest barriers to investment.

Several interviewees suggested that Canada has a significant opportunity to leverage its clean electrical grid in order to assist in the decarbonization of the US electricity sector. The discussion of progress on Recommendation 15 in Section 1 mentions some progress on this topic; however, interviewees noted a significant lack of progress on developing efficient and sustainable electricity grids of the future.

> "We've been very concentrated on an East-West Canada grid…we don't really need this as a priority…we need as many North-South inter-ties as possible from the lowest emission Canadian electricity jurisdictions to the very high carbon US power regions that are being required to decarbonize…"
>
> Lisa DeMarco, Senior Partner and CEO, Resilient LLP

Investor engagement

Investor engagement initiatives such as the Climate Action 100+ have proven to be an effective means of achieving positive sustainable finance outcomes and many interviewees believe that leveraging Canada's large institutional investor base for engagement represents an important tool. Recommendation 10.2 relates to establishing a national engagement program, akin to Climate Action 100+. The RIA, Shareholder Association for Research and Education (SHARE), and Ceres are working in collaboration to develop Climate Engagement Canada (CEC), the aim of which is to provide additional engagement in key Canadian sectors and companies that are not covered by larger global programs such as Climate Action 100+.

Investor engagement and holding these firms accountable will be critical to achieving meaningful emission reductions across Canada. For example, a recent ISF report found that within the S&P/TSX Composite Index, the actions of the largest emitters with reduction targets are critical to achieving progress in terms of emissions reductions. In particular, if 29 of the top emitting firms with targets met them, the total reduction in emissions would equal 98% of the total reduction achieved if all 60 Index firms with targets achieved them.[111]

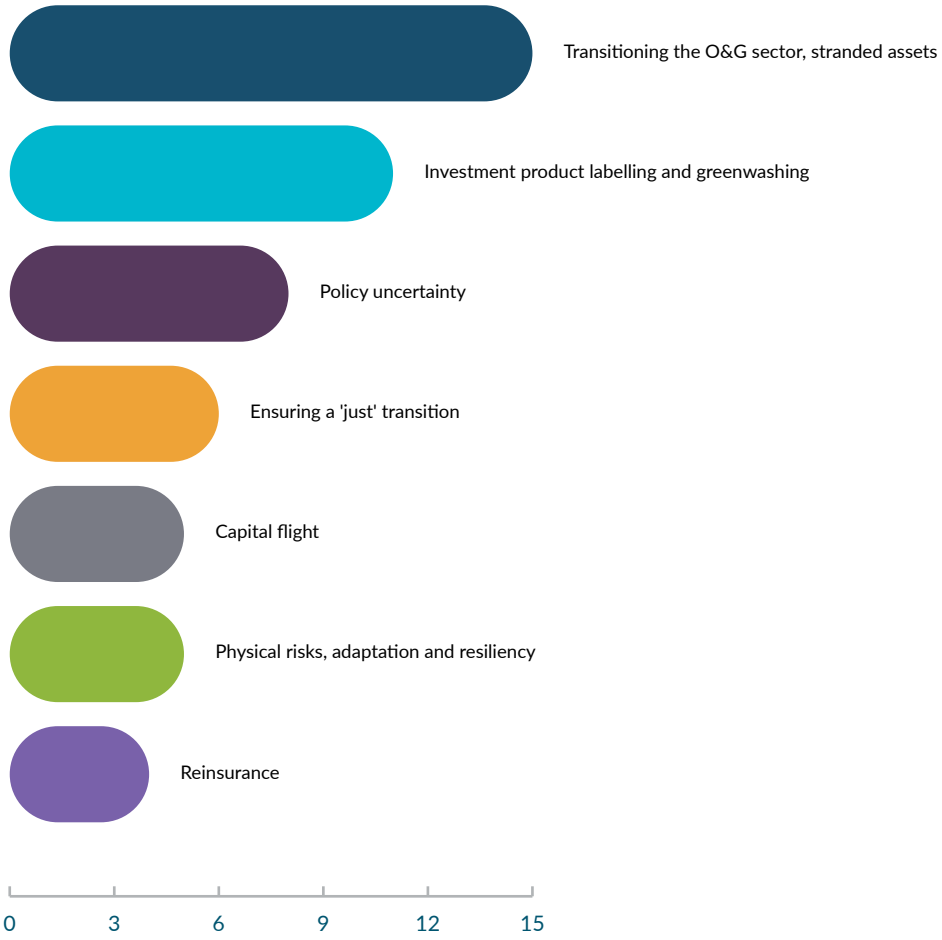
> "The energy sector is an integral part of the Canadian economy and our equity market; thus a divestment strategy is sub-optimal. One tool that Canadian investors have if they still want to invest in the energy sector is engagement…which is an important tool to help companies transition to a low carbon economy and improve their disclosure. This is still not a universal practice across Canadian asset managers".
>
> Lesley Marks, Chief Investment Officer, Mackenzie Investments

KEY RISKS / IMPEDIMENTS

Figure 5 identifies the seven most frequently referenced key risks and impediments facing Canada's transition to a sustainable economy. We discuss each of these in order.

FIGURE 5

Key Risks and Impediments



Transitioning the Canadian oil and gas sector and the risk of stranded assets

The most frequently cited risk was transitioning the Canadian oil and gas sector, while we previously noted that the 4th most frequently cited need for short-term action was to provide support for the energy transition. This is consistent with a recent statement by the Bank of Canada in its 2021 Financial System Review, which stated that assets exposed to climate-related risks are generally mispriced, and could leave investors and financial institutions exposed to sudden losses in the value of carbon-intensive assets in the transition to a low-carbon economy.[112] The discussion of progress on Recommendation 12 in Section 1 mentions some progress on this topic; however, interviewees noted there is still much work to do.

> "There is urgency to this because it will come to other sectors that have not had the scrutiny that the O&G has been under. The irony is the O&G industry have woken up and seen this as an opportunity. I think they could potentially do it by 2040 not 2050, or sooner, it all depends on availability of capital to do so."
>
> Peter Tertzakian, Deputy Director, ARC Energy Institute

Investment product labelling and greenwashing

Turning the Tide on Greenwashing

MICHAEL THOM, CFA MANAGING DIRECTOR, CFA SOCIETIES CANADA, AND IAN ROBERTSON, CFA, VICE-PRESIDENT, DIRECTOR AND PORTFOLIO MANAGER AT ODLUM BROWN LTD.

With the growing number of products that aim to address investors' ESG concerns, investment managers and the companies in which they invest are subject to increased scrutiny of their claims.

Evidence of "greenwashing," or giving a false impression that something is more ESG-friendly than it truly is, was found by the European Commission (EC) earlier this year. They found that in 42% of cases "online claims were exaggerated, false or deceptive and could potentially qualify as unfair commercial practices under [EU] rules." Investment managers face similar scrutiny of their products and processes, as provincial securities commissions in Canada and the SEC in the U.S. recently examined claims by a select number of investment products and their managers.

The challenge in mitigating potential greenwashing claims can be broken down into three related areas: claims made by issuers; claims made by funds that invest in the issuers; and claims made about the investment process or strategy.

The EU's new disclosure requirements on sustainability (SFDR) take aim at all three areas by establishing a standard taxonomy and labelling. It identifies and labels companies according to four tests of environmental sustainability, and through this and related regulations, it mandates that asset managers apply similar tests and labels at the fund or product level (investment holdings), and at the firm level (investment processes).

Alignment between 'sustainable' issuers and 'sustainable' investment funds is intuitive — a fund holding mostly green investments would appear also to be green — but it also highlights the third area of greenwashing: the assumptions implicit in different investment processes.

The alignment of investment fund holdings is a type of screening, in this case alignment with precise SFDR sustainability standards but in other cases with moral or religious standards, that resonates with retail and institutional investors alike … but it is different from the investment process originally promulgated by the UN backed PRI in 2006. That process eschewed screening and instead followed traditional investment theory to focus on the integration of ESG factors into the analysis and valuation of securities, and the stewardship of those investments once chosen for a portfolio. The recent election of dissident directors at Exxon Mobil Corp is a high profile example of successful stewardship.

Using the lens of an investment professional rather than regulator, CFA Institute recently published its own draft ESG Disclosure Standards for Investment Products, which will lead to finalized global standards later this year that "provide greater transparency and comparability for investors" and allow "asset managers to clearly communicate the ESG-related features of their investment products."

Global standards should encourage many regional product certification or labelling initiatives, whether mandated by regulators as with SFDR, developed by industry consortia such as the proposed Responsible Investment Fund Identification Framework from the Canadian Investment Funds Standards Committee (CIFSC), or overseen by industry associations such as the Responsible Investment Association Australasia's successful product certification program.

A global consensus is emerging on how regulators and industry can work together towards a common set of principles in ESG-related practices, procedures, and disclosure for investment products and their managers, as recently outlined in The International Organization of Securities Commission's (IOSCO) Sustainable Finance Task Force (STF) Workstream 2 report, setting out five high-level recommendations.

Canadian securities regulators were involved in the creation of the IOSCO recommendations, and at the time of writing these recommendations seem likely to form the outline for Canadian regulation, in concert with complementary industry-driven standards.

Canada's approach is likely to account for our particular regulatory and economic structure, but the outcome — an alignment of investor expectations and investment products delivering on their claims relating to ESG — should be equally effective. The ultimate goal in both the EU and Canada should be the direction of new capital toward better ESG outcomes.

Clear taxonomy and regulation are essential, but the productive direction of capital also requires improved data disclosure. Fortunately this has been long supported by a thriving not-for-profit sector, including for: carbon footprints (CDP/CDSB and TCFD); labour practices (the Workforce Disclosure Initiative); and definitions of sustainability (SASB, GRI). The emerging ESG data paradigms and disclosure norms will allow investors and regulators to more accurately determine the veracity of corporate claims, just as the EC did in its review of green product claims.

The proliferation of and claims by ESG-related investment products presents a challenge for the investment industry, but it's one that's being met by better data, increased corporate disclosure, development of clear standards for investment products, and increased regulatory oversight.

The second most frequently referenced risk was the lack of specific criteria for investment holdings within an ESG or sustainability fund, which are not well defined, and hence leave room for misinterpretation — particularly on the side of retail investors. Many note that the term ESG does not necessarily translate into low-carbon, and there is significant public confusion around this concept. Several interviewees expressed hope that the recent work by the CFA Institute to establish ESG Disclosure Standards for Investment Products would assist in alleviating some of the confusion for investors.

"It is an important aspect to get right because we must maintain confidence in the system to ensure capital flows appropriately and investors are not taken advantage of. For that to happen, customers (importantly including unsophisticated investors with minimal training or means to investigate) must be able to know that what they are getting is consistent with their objectives. But the rules must also practically work for the product providers — they must have confidence in how they will be judged or sanctioned. As a result, several things are required: Making the rules clear, understandable, executable, and objective to the industry so they have a basis to know when they are in bounds or out of bounds; labelling, so customers know what they are buying; providing accessible education to both buyers and sellers tailored to their circumstances; and some reasonable level of policing."

Andy Chisholm, Board Director, RBC, Member of Canadian Expert Panel on Sustainable Finance

"One of the things that worries me in the sector is how we talk about ESG investments and assets under management in the investment funds industry…you keep seeing these numbers going up…yet I don't think the numbers always relate to real social or environmental impact on the ground."

Sandra Odendahl, Vice President, Sustainability, Scotiabank

Policy uncertainty

Many noted that in order for issuers and financial markets to properly account for a price on carbon, the policy signals must be clear. Carbon pricing serves as a critical demand driver for investments in carbon abatement and other clean technologies. In this regard, several interviewees were encouraged by the federal government's announcement that the price on carbon will increase to $170 per tonne by 2030, and by the March 2021 Supreme Court of Canada ruling that the proposed carbon pricing regime was constitutional. However, carbon pricing is but one policy variable, and clear guidance is necessary for several other regulatory issues in order to unlock private capital.

"If the government can follow through with the $170 price on carbon…this is going to move the market…the market pull will be real, it'll be disaggregated, and it'll be across every industry…and if that is there, the funding for the technologies will be there as well."

Tom Rand, Managing Partner, ArcTern Ventures

Ensuring a "just" transition

Many interviewees noted that the transition to a net-zero economy will impact various sectors and jurisdictions differently, creating jobs in some, while eliminating jobs in others. It is essential that we provide assistance and opportunities to those workers and communities that are impacted by this transition. The federal government launched a "just transition" consultation process in July 2021 focused on helping workers and communities transition to a net-zero economy.[113] Further, climate change itself disproportionately impacts society's most vulnerable populations, and it is important that we provide the tools and infrastructure to ensure all of Canada reaps the benefits of a resilient and sustainable economy.

> "Climate change, like the pandemic, will impact various areas of society very differently…we will need a transition that brings everyone along…if climate change creates some big new divide, we're not going to get to where we need to go."
>
> Tiff Macklem, Governor, Bank of Canada, Member of Canadian Expert Panel on Sustainable Finance

Capital flight if we do not ramp up transition efforts

Interviewees noted the importance of being aware that Canada is competing for capital with many other countries' capital markets, and projects must be internationally attractive and competitive. For example, several large global institutional investors, such as New York State Pension Fund and the Norges Bank Investment Management, have begun to divest from Canada due to climate risk.[114], [115]

> "It's not just about what we're transitioning away from, but also about how we will be competing for global capital and opportunities in the future."
>
> Monika Freyman, Head of Responsible Investment, Mercer Canada

Managing the physical risks of climate change — adaptation and resiliency

Several interviewees noted the importance of managing the physical risks associated with climate change, many of which we have been experiencing for some time now. This is consistent with Canada's Changing Climate Report, which was released in 2019, which noted that Canada's rate of surface warming is more than twice the global rate.[116] Relatedly, between the early 1980s and 2019, Canadian insurers adapted to a twenty-fold increase in severe weather damage claims, with claims doubling every five to 10 years according to the report, "Climate Risks: Implications for the Insurance Industry in Canada."[117] The Insurance Bureau of Canada estimates that for every single dollar paid out in insurance climate for homes and businesses, Canadian governments pay out $3 to recover public infrastructure damaged by severe weather[118].

In April 2021, NRC published a report showing that Canadian communities of all sizes are experiencing the impacts of climate change on their infrastructure, health, culture, and economies, threatening Canada's ecosystems and the vital services they provide, including access to freshwater.[119] As these impacts will persist and intensify over time, urgent action is needed to reduce greenhouse gas emissions and increase resilience to climate change through adaptation. Relatedly, Budget 2021 announced funding to invest in resiliency and adaptation, including: $1.4 billion over 12 years for the Disaster Mitigation and Adaptation Fund; $63.8 million over three years to complete flood maps in high-risk areas; $100.6 million over five years to enhance wildfire preparedness in Canada's National Parks; and $28.7 million over five years to increase mapping of areas in Northern Canada at risk of wildfires.[120]

Several interviewees also highlighted the important distinction between risk and uncertainty within the context of climate change and finance: with risk being defined as when future events occur with measurable probability, and uncertainty existing when the likelihood of future events is indefinite or incalculable.[121] In the case of climate, ecological breakdown and its corresponding physical impacts facing the financial sector are characterised by non-linearity, tipping points, and feedback loops in a complex, dynamic and interconnected environment.[122]

> "Over any single year climate change does not markedly change the insurance industry…despite increasing levels of risk, the last 10 years remain a sound predictor of the level of risk to be expected next year…they are a nearly useless predictor for 20 years from now however…in 20 years climate change will have broken our business model because many of our clients will not be able to afford to insure against their physical risk exposure amplified by climate change…"
>
> Rob Wesseling, CEO, The Co-operators

Reinsurance risk for carbon-intensive companies

Related to the comments above regarding the distinction between risk and uncertainty caused by climate change, several interviewees noted that Canada's carbon-intensive industries could be at risk in the future of being unable to obtain reinsurance as a result of increasing climate risk and investor pressure.

> "A lot of financial institutions are under pressure to make sustainability a priority and meet net-zero targets…they will have issues with fossil fuel projects…we're already seeing companies pulling out of large projects…for example global property and casualty re-insurers reducing capacity to certain industries and this can impact the availability and cost of insurance protection for companies in those sectors "

Stephane Tardif, Managing Director, Office of the Superintendent of Financial Institutions

> "Today's globally interconnected financial system introduces unique challenges and opportunities in the energy transition. As climate policy and risk pricing evolve, Canada must be sure that its key sectors are taking the necessary steps to maintain a competitive value proposition, and in turn, continued affordable access to financing, investment and insurance"

Barb Zvan, President and CEO
University Pension Plan, and member of the Canadian Expert Panel on Sustainable Finance

Exhibit 1

Interview Participants

Kathy Bardswick, President and CEO, Canadian Institute for Climate Choices

Dominique Barker, Managing Director, Head, Sustainability Advisory, CIBC

Alanna Boyd, Senior Vice-President, Chief Sustainability Officer, Sun Life Financial

Margaret Childe, Head of ESG, Manulife Investment Management

Andy Chisholm, Board Director, RBC, Member of Canadian Expert Panel on Sustainable Finance

Karen Clarke Whistler, Principal, ESG Global Advisors

Jennifer Coulson, Vice President, ESG, British Columbia Investment Management Corporation

Milla Craig, Founder and President, Millani

Jeff Cyr, Managing Partner, Raven Indigenous Capital Partners

Lisa DeMarco, Senior Partner and CEO, Resilient LLP

Corey Diamond, Executive Director, Efficiency Canada

Monika Freyman, Head of Responsible Investment, Mercer Canada

Martin Grosskopf, VP, Portfolio Manager and Director, Sustainable Investing, AGF

Jonathan Hackett, Managing Director and Head, Sustainable Finance, BMO

Andrew Hall, Director, Sustainable Finance, TMX Group

Large Canadian pension fund

Tiff Macklem, Governor, Bank of Canada, Member of Canadian Expert Panel on Sustainable Finance

Lesley Marks, Chief Investment Officer, Mackenzie Investments

Catherine McCall, Executive Director, Canadian Coalition for Good Governance

Sandra Odendahl, Vice President, Sustainability, Scotiabank

Lindsay Patrick, Managing Director and Head, Sustainable Finance, RBC

Tom Rand, Managing Partner, ArcTern Ventures

Fate Saghir, Senior Vice President, Sustainable Investing, Mackenzie Investments

John Stackhouse, Senior Vice President, Office of the CEO, RBC

Pamela Steer, Advisory Board, Institute for Sustainable Finance

Stephane Tardif, Managing Director, Office of the Superintendent of Financial Institutions

Peter Tertzakian, Deputy Director, ARC Energy Institute

Hillary Thatcher, Senior Director, Project Development Indigenous Infrastructure, Canada Infrastructure Bank

Nicole Vadori, Head of Environment, TD Bank

Rob Wesseling, CEO, The Co-operators

Dan Wicklum, President and CEO, Transition Accelerator

Cynthia Williams, Osler Chair in Business Law, Osgoode Hall

Laura Zizzo, Co-Founder and CEO, Manifest Climate

Barb Zvan, CEO, University Pension Plan, Member of Canadian Expert Panel on Sustainable Finance

Large Canadian Pension representative

Exhibit 2

Advisory Council Members

Margaret Childe, Head of ESG, Manulife Investment Management

Monika Freyman, Head of Responsible Investment, Mercer Canada

Andrew Hall, Director, Sustainable Finance, TMX Group

Dustyn Lanz, CEO, Responsible Investment Association

Catherine McCall, Executive Director, Canadian Coalition for Good Governance

Andrea Moffat, Vice President, Ivey Foundation

Florian Roulle, Senior Director, Strategy and Partnerships, Sustainable Finance Manager, Finance Montréal

Alyson Slater, Senior Director, Sustainable Finance, Global Risk Institute

Pamela Steer, Advisory Board, Institute for Sustainable Finance

Hillary Thatcher, Senior Director, Project Development Indigenous Infrastructure, Canada Infrastructure Bank

Michael Thom, Managing Director, CFA Societies Canada

Davinder Valeri, Director, Strategy Risk and Performance, CPA Canada

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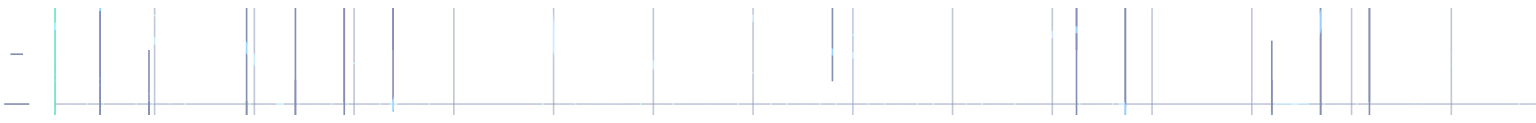

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ONTARIO ENERGY BOARD

FILE NO.:	**EB-2022-0200**	**Enbridge Gas Inc.**

VOLUME:	**10**	
DATE:	**July 27, 2023**	
BEFORE:	**Patrick Moran**	**Presiding Commissioner**
	Allison Duff	**Commissioner**
	Emad Elsayed	**Commissioner**

risk (which Concentric has failed to demonstrate actually exist)."

So, as I heard you just now, you believe that there is a transition risk, but Concentric just failed to demonstrate it. Is that right?

DR. CLEARY: I believe it is there; I don't believe that Concentric demonstrated that this transition risk didn't just appear six months ago, that has been there and has been evolving, I would say, through time. It has been there, but they haven't proven any hard evidence that today's gas users should be penalized for transition costs that may happen in the future.

And in fact, you know, we have -- as I said, we are going to be using gas for a while. And I heard somebody from Enbridge Gas say the other day, or confirm it, that we will be using it during this transition period because the bottom line is, you know, it is in the long term, transitioning away from gas. But in the short term, you know, we have to get rid of coal and oil first.

And also, electrification actually means we need more electricity. So even if we transition to other sources, it doesn't necessarily mean that the gas market is going to completely dry up, and I would suspect certainly not over the next five, even 10 years.

MR. LADANYI: Thank you. I am going to go actually to my last question, and I think everybody will be happy to know I will be finished soon.

Your evidence does not mention Enbridge's proposal for

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Commentary

Losing Steam: Weakening Credit Metrics in the North American Utilities Sector

Morningstar DBRS
May 15, 2024

Contents

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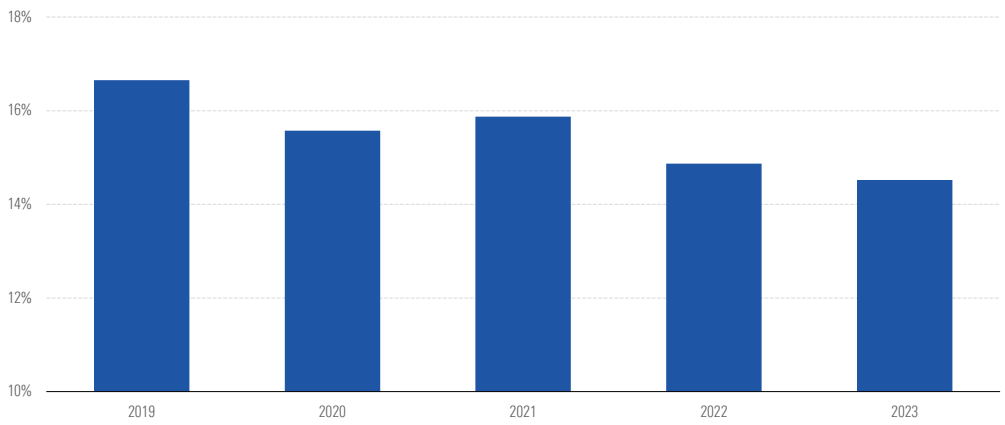
The North American utilities sector has navigated a remarkable set of macroeconomic and geopolitical challenges since the onset of the coronavirus pandemic in 2020. While the industry has demonstrated resilience in weathering these turbulent conditions, there are signs of an overall weakening in credit metrics across the sector and within our portfolio of rated issuers, largely driven by regulatory lag, significant capital needs, and macroeconomic pressures. As the chart below illustrates over the past five years the key cash flow to debt ratio on average for our rated issuers in the utilities sector has weakened from 16.6% in 2019 to 14.6% in 2023. The data for Exhibit 1 is based on a sample set of 31 of our rated issuers in the Utilities sector.

Exhibit 1 North American Utilities Cash Flow to Debt in Decline



Source: Morningstar DBRS
* The chart shows average cash flow/adjusted debt of North American gas and electric utilities rated by Morningstar DBRS.

Lagging Authorized Return of Equity

The regulatory process for updating the authorized Return of Equity (ROE) often moves slowly. Despite significant jumps in interest rates and inflation, the average authorized ROE for Canadian electric and gas utilities have seen a minimal increase (9.17% in 2023 from 8.77% in 2020). A similar situation is playing out for U.S. utilities, though their baseline ROEs tend to be higher than in Canada.

In North America, most rate designs and regulatory frameworks are structured to provide a stable, predictable ROE over time, rather than allowing the ROE to fluctuate with market conditions. ROE stability allows utilities to generate stable and predictable cash flows. However, at the same time, it can constrain the ability to promptly adjust returns in the event of upward pressure on ROE. Furthermore, as

regulators seek to balance utility investment needs and consumer affordability because of the current economic condition, this often exerts downward pressure on the ROE. Having a relatively low ROE compared with the actual cost of capital can directly impact credit metrics.

Rising Capital Expenditure Requirements

The industry's ongoing allocation of substantial capital toward initiatives such as climate adaptation, modernization, and energy transition has reached unprecedented levels, with many utilities rolling out capital expenditure (capex) programs that are 10% to 20% greater compared with previous cycles. These investments have led, in many cases, to net free cash flow deficits and the need for funding.

We also note state-owned utilities, in particular, lack the access to equity markets because of their ownership structures, and are thus more reliant on debt financing for their capex needs. We anticipate the trend of elevated capex and reliance on debt financing will likely persist over the longer term, further adding stress on the sector's financial leverage ratios. Credit metrics are likely to weaken for companies that cannot maintain actual capital in-line with the approved regulatory capital structure.

Macroeconomic Pressures

Macroeconomic pressures related to inflation, interest rates, and bad debt write-offs from affordability concerns continue to have an impact on the credit profiles for utilities. The slower-than-expected moderation in inflation has resulted in revenue shortfalls for a number of utilities because of a lag in incorporating up-to-date inflation factors in rate case submissions. Without mechanisms in place for interim rate adjustments or timely regulatory approvals, some utilities may struggle to cover increasing costs over an extended period.

Furthermore, we have seen increasing accounts receivable collection periods and write-offs for some utilities since 2020. These pressures, combined with uncertainty around high interest rates, have driven up working capital requirements, contributing to greater utilization of credit facilities by utilities. Liquidity constraints could leave utilities more exposed to unexpected costs such as project cost overruns, extreme weather damage, and commodity price shocks if they cannot be passed through in a timely manner.

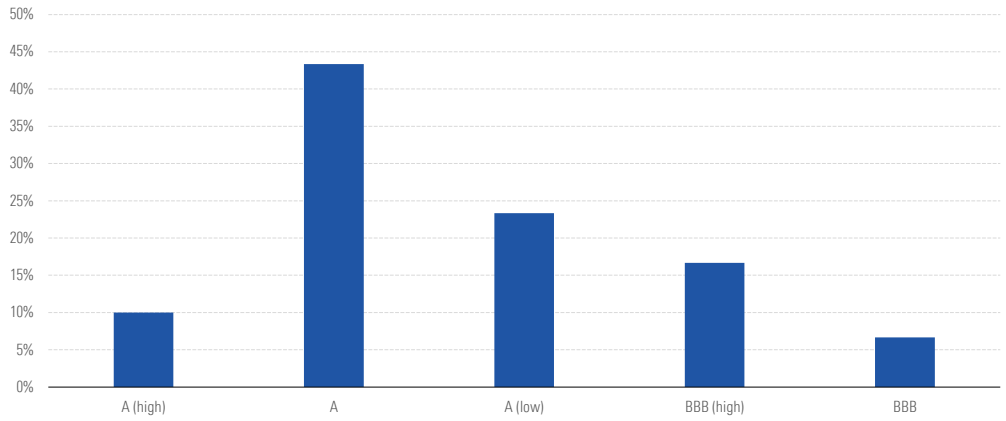
Some Relief in Sight

Despite these headwinds, there are some relief measures on the horizon for the utilities sector: (1) regulatory frameworks remain stable, providing utilities with a predictable operating environment without any material changes expected; (2) stabilizing or even declining interest rates could ease the cost of borrowing; (3) utilities in many jurisdictions are finally rebasing with their actual costs, in part by the significant rate base built over the past few years, which should help offset rising costs; and (4) government initiatives and subsidies aimed at supporting electrification and grid upgrades are expected to offset some of the capex burdens.

Conclusion

Among all the gas and electric utilities we rate, the average cash flow to debt ratio stands at approximately 15%, which is consistent with the sector's "A" rating category (see Exhibit 2 for the distribution of our rated North American Utilities). Nonetheless, factors such as regulatory lag, elevated capex, and macroeconomic pressures have collectively weakened the sector's credit metrics. About 33% of our rated utilities have minimal financial cushions in the "A" rating category and could become more susceptible to negative rating actions. We anticipate most of these companies will be able to maintain their bottom line and benefit from some potential tailwinds, allowing them to sustain their credit metrics in the near to medium term.

Exhibit 2 Rating distribution of North American Utilities



Source: Morningstar DBRS.

About Morningstar DBRS

Morningstar DBRS is a full-service global credit ratings business with approximately 700 employees around the world. We're a market leader in Canada, and in multiple asset classes across the U.S. and Europe.

We rate more than 4,000 issuers and nearly 60,000 securities worldwide, providing independent credit ratings for financial institutions, corporate and sovereign entities, and structured finance products and instruments. Market innovators choose to work with us because of our agility, transparency, and tech-forward approach.

Morningstar DBRS is empowering investor success as the go-to source for independent credit ratings. And we are bringing transparency, responsiveness, and leading-edge technology to the industry.

That's why Morningstar DBRS is the next generation of credit ratings.

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2023
Annual Report

Emera

> “The Emera Team’s belief in our shared strategy and common values drives our business forward.”

THE CLEAN ENERGY TRANSITION

There are significant and competing pressures that must be addressed and carefully balanced in order to deliver a successful energy transition. A clean energy future must be achieved in a way that’s balanced with affordability for customers and without sacrificing reliability — all within a system that was built at a time of lower energy demand and with different goals in mind.

As energy policy and objectives continue to evolve, the demand for cleaner, reliable energy increases and the challenges to customer affordability intensify. Each of these critical forces directly impacts the other — affordability is challenged by the need to invest in cleaner energy and reliability. While renewable energy is becoming increasingly cost-effective, our systems were not built to support their intermittency, which means we must invest in backup energy and in grid modernization to support reliability. And all of this requires increased capital investment in an environment where the cost of capital is much higher, inevitably impacting affordability.

In some cases, government policy is enabling the energy transition, with programs such as the *Inflation Reduction Act* in the US and recent federal incentives in Canada, including Investment Tax Credits, grants and loans. Current policy objectives, such as the need to achieve 80 per cent renewable energy and close coal plants in Nova Scotia by 2030, are being augmented with anticipated future policies, including the Environmental Protection Agency Guidelines in the US and Clean Energy Regulations in Canada. As we navigate long-term capital investment decisions under these evolving policy constructs, we are working with governments and regulators to add our voice to these important discussions to help inform policy with the goal of developing the most effective and cost-efficient path forward for customers.

2023 HIGHLIGHTS

We are continuing to make progress on this complex energy transition, thanks to the dedicated and highly skilled members of our team across Emera. Their belief in our shared strategy and common values drives our business forward. Last year, we reinforced this commitment by refreshing our company-wide purpose, vision and values — an articulation of why and how we do what we do — fortifying our commitment to delivering for our customers every day. We are working together to energize modern life and deliver a cleaner energy future for all. We strive to be the energy provider of choice for customers, the employer of choice for our people and a preferred choice for investors. We do all this by putting the needs of our customers at the centre of everything we do. We collaborate and care for each other, the environment and our communities — and we’re not afraid to tackle big challenges, including those that arise as we navigate the complexities of the clean energy transition. Above all, we value the safety of our teams and communities.

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FORTIS INC.

St. John's, NL - February 9, 2024

FORTIS INC. REPORTS FOURTH QUARTER & ANNUAL 2023 RESULTS

This news release constitutes a "Designated News Release" incorporated by reference in the prospectus supplement dated September 19, 2023 to Fortis' short form base shelf prospectus dated November 21, 2022.

Fortis Inc. ("Fortis" or the "Corporation") (TSX/NYSE: FTS), a well-diversified leader in the North American regulated electric and gas utility industry, released its 2023 fourth quarter and annual financial results[1].

Highlights

- Reported annual net earnings of $1.5 billion, or $3.10 per common share for 2023
- Annual adjusted net earnings per common share[2] of $3.09, up from $2.78 for 2022
- Capital expenditures[2] of $4.3 billion, yielding ~6% annual rate base growth[3]
- Sale of Aitken Creek closed in November 2023; proceeds further strengthened the balance sheet
- Achieved 50 years of common share dividend increases
- Scope 1 emissions 33% below 2019 levels; emissions reduction targets on track in support of 2050 net-zero goal

"We delivered another year of strong financial results reflecting the execution of our regulated growth strategy," said David Hutchens, President and Chief Executive Officer, Fortis Inc. "Rate base growth and the conclusion of key regulatory proceedings supported year over year earnings growth. We invested $4.3 billion of capital to enhance reliability, modernize the grid and deliver cleaner energy for customers while further reducing our carbon footprint."

"Last year Fortis was proud to celebrate 50 consecutive years of increases in dividends paid to shareholders," said Mr. Hutchens. "We remain focused on extending this track record as we execute our $25 billion five-year capital plan in support of our annual dividend growth guidance of 4-6% through 2028."

Sale of Aitken Creek

On November 1, 2023, the sale of Aitken Creek closed for approximately $470 million including working capital and closing adjustments. The transaction reflected a March 31, 2023 effective date. Net proceeds from the transaction further strengthened the balance sheet and provided additional funding flexibility in support of our regulated utility growth strategy.

In accordance with U.S. GAAP, reported net earnings attributable to common equity shareholders ("Net Earnings") includes the results for Aitken Creek until the November 1, 2023 date of disposition. Adjusted net earnings attributable to common equity shareholders[2] ("Adjusted Net Earnings") reflects results for Aitken Creek through the March 31, 2023 effective date.

Net Earnings

The Corporation reported Net Earnings of $1.5 billion, or $3.10 per common share for 2023, compared to $1.3 billion, or $2.78 per common share for 2022. Growth in earnings was primarily driven by rate base growth across our utilities and the new cost of capital parameters approved for FortisBC effective January 1, 2023. Higher earnings in Arizona also contributed to earnings growth, reflecting higher retail electricity sales, new customer rates at Tucson Electric Power ("TEP") effective September 1, 2023, and lower depreciation expense associated with the retirement of the San Juan generating station in 2022. An increase in the market value of certain investments that support retirement benefits, and the higher U.S.-to-Canadian dollar exchange rate, also favourably impacted earnings year over year. The increase was partially offset by higher corporate finance costs and lower earnings associated with Aitken Creek. In addition, net earnings per common share reflected an increase in the weighted average number of common shares outstanding largely associated with the Corporation's dividend reinvestment plan.

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[1] Financial information is presented in Canadian dollars unless otherwise specified.

[2] Non-U.S. GAAP Measures - Fortis uses financial measures that do not have a standardized meaning under generally accepted accounting principles in the United States of America ("U.S. GAAP") and may not be comparable to similar measures presented by other entities. Fortis presents these non-U.S. GAAP measures because management and external stakeholders use them in evaluating the Corporation's financial performance and prospects. Refer to the Non-U.S. GAAP Reconciliation provided herein.

[3] Calculated using a constant U.S. dollar-to-Canadian dollar exchange rate.

Accidents or natural disasters affecting any of the Corporation's electricity or gas utilities can lead to service disruption, spills and commensurate environmental or other liability.

Generating equipment and facilities are subject to physical risks, including equipment breakdown or damage from fire, floods or other natural disasters, that may result in the uncontrolled release of water, interruption of fuel supply, lower-than-expected operational efficiency or performance, and service disruption.

The foregoing risks associated with fire damage vary depending on weather, forestation, the proximity of habitation and third-party facilities to utility facilities, and other factors. The utilities may become liable for fire-suppression costs, regeneration and timber value costs, and third-party claims if their facilities are determined to have been responsible for, or contributed to, a fire.

Electricity and gas systems require ongoing maintenance, improvement and replacement. The utilities are responsible for operating and maintaining their assets in a safe manner, including the development and application of appropriate standards, system processes and/or procedures to ensure the safety of employees, contractors and the general public.

Service disruption, other effects and liability, whether caused by the failure to properly implement or complete approved maintenance and capital expenditures, severe weather or other physical risks, if not mitigated through insurance policies or the recovery of such costs in customer rates, could result in loss. Any of the foregoing potential impacts of physical risk could have a Material Adverse Effect.

The foregoing physical risks can be exacerbated by the "Climate Change" risks discussed below.

Climate Change

Climate-Related Physical Risk

Climate change may negatively impact the ability to provide reliable and safe electric and gas service. The changing climate is predicted to lead to higher temperatures and more frequent and severe weather events which may impact or disrupt the reliability of electric or gas systems. The physical risks associated with a changing climate requires the Corporation’s utilities to respond to continue delivering reliable service to customers.

Severe weather and events related to severe weather impact the Corporation's service territories, primarily in the form of thunderstorms, flooding, wildfires, hurricanes, storm surges, atmospheric rivers and snow, or ice storms. Increased frequency of such events could increase the cost of providing service through increased repairs and use of contingency plans. Extreme weather conditions and changes in air temperature require system backup and can result in system stress, including service disruptions, and decreased efficiency of operating facilities over time. Changes in precipitation that impact soil moisture and water levels, or result in droughts, could increase the risk of wildfire caused by the Corporation's electricity assets or may cause water shortages that could adversely affect operations.

Longer-term climate change impacts, such as sustained higher temperatures, higher sea levels, larger storm surges and floods, could result in service disruption, shortened asset life, increased repair and replacement costs, and costs associated with strengthened design standards and systems. The impacts of climate change can intensify the "Physical Risks" (see "Physical Risks" on page 25).

The physical risks posed by the impacts of climate change and resultant damage to assets, service disruption repair and replacement costs, and liability for third party damages could have a Material Adverse Effect if not resolved in a timely and effective manner and/or mitigated through insurance policies or regulatory cost recovery. An increase in business risk associated with climate change can also impact credit ratings, which could affect credit risk spreads on new long-term debt and credit facilities, as well as their availability (see "Access to Capital" on page 31).

Climate-Related Transition Risk

As economies transition toward decarbonization and increase renewable energy use under various national and international commitments, risks arise related to associated policy, legal, technological and market changes, which may have related capital and financial implications for the Corporation and its utilities.

The impacts of the transition to a cleaner energy future will require the Corporation’s utilities to effectively manage, among other things, evolving regulatory and legislative requirements, new resiliency standards, the integration of new technologies and impacts on customer demand and rates. Failure to appropriately respond to climate change and decarbonize may disrupt the ability of the utilities to provide safe and cost-effective service, which could cause reputational harm and other impacts.

Fortis expects the pace of government policy and regulatory changes to accelerate in the coming years (see "Environmental Regulation" on page 27). Further, the emergence of initiatives designed to reduce GHG emissions, increase renewable energy use, and control or limit the effects of climate change has increased the incentive for the development of new technologies that produce renewable energy, enable more efficient storage of energy and reduce energy consumption. As new technologies become widely available, infrastructure design risks and time delays may emerge. Utility energy delivery systems will require technological changes and updates in order to effectively deliver increasing amounts of renewable energy to customers (see "Technology Developments" on page 28).

The availability of regulatory mechanisms or the ability of the Corporation's utilities to pass related costs on to customers remains uncertain. Regulatory lag in relation to the adoption of climate change initiatives and/or the availability of regulatory recovery mechanisms in certain jurisdictions could contribute to financial harm to Fortis and its utilities (see "Utility Regulation" on page 25).

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CANADIAN UTILITIES LIMITED

ANNUAL REPORT

FOR THE YEAR ENDED DECEMBER 31, 2023

BUSINESS RISKS AND RISK MANAGEMENT

The Board is responsible for understanding the principal risks of the businesses in which the Company is engaged. The Board also must achieve a prudent balance between risks incurred and the potential return to share owners. It must confirm controls are in place that effectively monitor and manage those risks for the Company's long-term viability.

The Board has an Audit & Risk Committee, which reviews significant risks associated with future performance and growth. This committee is responsible for confirming that management has procedures in place to mitigate identified risks.

We have an established enterprise risk management process that allows us to identify and evaluate our risks by both severity of impact and probability of occurrence. Materiality thresholds are reviewed annually by the Audit & Risk Committee. Non-financial risks that may have an impact on the safety of our employees, customers or the general public and reputation risks are also evaluated. Details regarding business risks, both financial and operational, and our risk management approach are discussed below.

FINANCIAL RISKS

Project Execution / Capital Investment

DESCRIPTION AND CONTEXT

Having multiple growth projects and an aggressive growth strategy could strain the Company's ability to deliver projects on time and on budget. This could lead to financial impacts and missed opportunities. Poorly managed projects could result in project deliverables not being achieved or delivered as expected, which could lead to a loss of market confidence and future partners.

The Company is subject to normal risks associated with major capital projects, including cancellations, delays, and cost increases. As it relates to the Company's energy transition investments, the Company faces additional risks, including policy uncertainty, the pace of energy transition, commodity and environmental attribute price risk, and climate-related risks.

RISK MANAGEMENT APPROACH

The Company attempts to reduce the risks of project delays and cost increases through careful project feasibility, development and management processes, reliable procurement practices and entering into fixed price contracts when possible.

International Natural Gas Distribution's planned capital investment is approved by the regulator. Planned capital investments for the Alberta Utilities are based on the following significant assumptions: projects identified by the Alberta Electric System Operator will proceed as currently scheduled; the remaining planned capital investments are required to maintain safe and reliable service and meet planned growth in the Alberta Utilities' service areas; regulatory approval for capital projects can be obtained in a timely manner; and access to capital market financings can be maintained.

The Company reduces risks associated with policy uncertainty, the pace of energy transition, commodity and environmental attribute price risk, and climate-related risks by leveraging our competitive advantages and assigning clear accountability and leadership for executing and realizing capital investment. Planned capital investments for ATCO EnPower are based on the following significant assumptions: a diversified approach to business development focused on multiple pillars (energy storage, clean fuels, and renewables) and development in areas closest to economic feasibility; ensuring long-term assets are matched with appropriate customer offtake agreements with investment grade counterparties; pursuing projects in markets where fundamentals and competitive advantages enable us to be successful; and self-performing or working with Engineering, Procurement and Construction firms

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CANADIAN UTILITIES LIMITED
ANNUAL REPORT
FOR THE YEAR ENDED DECEMBER 31, 2023

Cybersecurity

DESCRIPTION AND CONTEXT

The Company's reliance on technology, which supports its information and industrial control systems, is subject to potential cyber-attacks, which may include but are not limited to: unauthorized access of confidential information, outage of critical infrastructure and/or ransomware attacks.

RISK MANAGEMENT APPROACH

The Company has an enterprise-wide cybersecurity program covering all technology assets. The cybersecurity program includes employee awareness, layered access controls, continuous monitoring, network threat detection, and coordinated incident response through a centralized security operations centre. The Company's cybersecurity management is consolidated under a common, centralized organization structure to increase effectiveness and compliance across the entire enterprise.

Regulatory

DESCRIPTION AND CONTEXT

The Regulated Utilities are subject to risks associated with the regulator's approval of customer rates that permit a reasonable opportunity to recover service costs on a timely basis, including a fair return on rate base. The Regulated Utilities are also subject to the potential risk of the regulator disallowing costs incurred. Electricity Distribution and Natural Gas Distribution operate under PBR. Under PBR, the Regulated Utilities' revenues are formula driven, which raises the uncertainty of cost recovery. In Australia, the ERA assesses appropriate returns, prudent levels of operating costs, capital expenditures and expected throughput on the network through an access arrangement proceeding.

RISK MANAGEMENT APPROACH

The Regulated Utilities file forecasts in the rate-setting process to recover the costs of providing services and earn a fair rate of return. The determination of a fair rate of return on the common equity component of rate base is determined in a GCOC proceeding in Alberta and a rate of return instrument review process, which is then adopted in subsequent access arrangement proceedings, in Australia. The Regulated Utilities continuously monitor various regulatory decisions and cases to assess how they might impact the Company's regulatory applications for the recovery of costs. The Regulated Utilities are proactive in demonstrating prudence and continuously look for ways to lower operating costs while maintaining service levels.

Climate Change

DESCRIPTION AND CONTEXT - POLICY RISKS

The Company has operations in several jurisdictions that are subject to emissions regulations, including carbon pricing, output-based performance standards, and other emissions management policies.

The potential of aggressive shifts in government decarbonization policies with limited transitional periods could create risk as well as concerns over the energy transition being completed in an effective, reliable and affordable manner. Future reliability of energy systems has also become a concern for system regulators and operators.

Part of the Company's growth strategy is taking a leadership role in the energy transition and associated projects. A lack of clarity on proposed regulations and funding creates revenue uncertainty for these projects.

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ONTARIO ENERGY BOARD

2024 REVIEW OF COST OF CAPITAL PARAMETERS AND DEEMED CAPITAL STRUCTURE

EB-2024-0063

Evidence of Dr. Sean Cleary, CFA Professor of Finance

Sponsored by Industrial Gas Users Association (IGUA) and

Association of Major Power Consumers in Ontario (AMPCO)

July 19, 2024

trigger mechanism that would be indicative of a period of extreme uncertainty in Canadian capital markets, which could significantly impact the validity of the parameters used in the ROE formula. In particular, if the Canadian A-rated utility yield spreads exceed 2%, I recommend an immediate and thorough assessment of existing capital market conditions. This could lead to a full regulatory review, depending on the results of this assessment. This is because, a spread greater than 2% would be indicative of a period of extreme uncertainty in Canadian capital markets. For example, over the January 2003-June 5, 2024 period, the average A-rated yield spread was 1.40%, with a minimum of 0.76% and with a maximum of 3.05% during December 2008, which was at the height of the financial crisis. However, for the most part, these spreads fluctuated but did not approach such high levels again. In fact, the 96th percentile for the spread over this period was 2.00%.

My recommendation is:

> 17) - I support regular reviews of the cost of capital policy (and allowed ROEs) at regular intervals (ideally every three years, but never more than five years).
>
> - The existing OEB trigger mechanisms and procedures that are in place are reasonable and should be retained.
>
> - In addition, I recommend that if the Canadian A-rated utility yield spreads exceed 2%, the OEB should undertake an immediate and thorough assessment of existing capital market conditions, which could lead to a full regulatory review, depending on the results of this assessment.

3.18 Mechanics of implementation – frequency for updating cost of capital parameters and/or capital structure of a utility

Issue 18: How should any changes in the cost of capital parameters and/or capital structure of a utility be implemented (e.g., on a one-time basis upon rebasing or gradually over a rate term)?

As LEI summarizes on page 159 of its evidence: “Changes in the OEB’s cost of capital parameters are implemented once a utility files its cost of service application (i.e., upon rebasing).” I agree with LEI’s opinion that this approach satisfies the FRS and is consistent with the objectives of promoting predictability and stability. As such, I recommend the OEB

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ONTARIO ENERGY BOARD

2024 REVIEW OF COST OF CAPITAL PARAMETERS AND DEEMED CAPITAL STRUCTURE

EB-2024-0063

Evidence of Dr. Sean Cleary, CFA Professor of Finance

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This expression implies that P/B ratios will be greater than one if actual ROE > Ke, will equal one if Ke = ROE, and will be less than one when ROE < Ke (which implies they are earning excess economic rent). This is all very intuitive – firms that earn a return on their equity above the cost of that equity will increase firm value. We can use the equation above to estimate the implied cost of equity (Ke) for given values for P/B, ROE and g. For the Canadian sample, we can examine the 2023 average ratio of 1.45 for P/B. I will use 1.80% as an estimate for "g" since it is the mid-point of the average of average growth rates of 1.79% and the average of median growth rates of 1.82% that were provided in Table 11. Calculations provided in Attachment L show that if we used the current allowed ROE of 9.21% for Ontario utilities as our ROE input, we would get an implied Ke figure of **6.81%.** If we instead used the average 2023 ROE of 7.76% for the Canadian sample as our ROE input (as per Table 10), we would get an implied Ke figure of **5.91%,** while if we used the 2017-23 average ROE of 8.51% (as per Table 10), the implied Ke would be **6.43%.** For the U.S. sample, we can use the 2023 average ratio of 1.69 for P/B and 3.15% for "g" (i.e., the mid-point of the average of average growth rates of 3.07% and the average of median growth rates of 3.24% that were provided in Table 11). If we used the current allowed ROE of 9.21% for Ontario utilities as our ROE input, we would get an implied Ke figure of **6.74%,** while if we used the average 2023 ROE of 9.40% for the U.S. sample, we would get an implied Ke figure of **6.50%,** while if we used the 2017-23 average ROE of 9.59%, the implied Ke would be **6.45%.**

Both the Canadian and U.S. implied Ke estimates above are very much in line with my final ROE estimate for Ontario utilities of **6.55%** (before adding 0.5% for flotation costs). While I do not assign any weight to this estimate for purposes of determining Ke, the bottom line of this analysis is that the P/B ratios for utilities reported above indicate that Ontario (and other Canadian) utilities appear to be earning a more than satisfactory ROE, and have done so for quite some time. This is important **market-based** information that supports my Ke estimates, and confirms that Canadian (and U.S.) utilities earn ROEs well in excess of their required equity return.

5.6 Summary of ROE Calculations

I have weighted all three of my Ke estimates equally, as I have done in all my previous evidence, because all three methods are used in practice and provide different perspectives on

Ke. As discussed previously, CAPM is more heavily relied upon in practice due to its conceptual advantages. For example, returning to the previous studies that were cited with respect to the DCF approaches to estimating Ke, they were used by:[69]

- only 15% of U.S. CFOs - versus over 70% for CAPM;[70]
- about 12% of Canadian CFOs - versus close to 40% for CAPM.[71]
- Not widely used by investors, while CAPM was used by the majority of investors.[72]

CAPM is also more intuitive from the point of view of a utility cost of capital hearing. In particular, it has a direct relationship to financing costs (i.e., RF and MRP). The CAPM also makes a direct adjustment for the risk of utilities relative to the market, unlike DCF models, since it has a direct measure of risk (i.e., beta) included in the model. In addition, there are uncertainties associated with determining some of DCF input estimates for pure play regulated Canadian industries, as discussed earlier.

I also give equal weighting to the BYPRP approach which is much more widely used than DCF approaches due to its intuitive nature, and because it adjusts for market-determined borrowing rates and risk. In fact the BYPRP approach is more widely used than CAPM by Canadian CFOs, as mentioned earlier. Thus the BYPRP approach accounts for interactions between company debt costs and equity markets, and as such it is intuitively sound.

Based on an equal weighting of the three approaches, I determine the following best estimate for allowed Ontario utility ROEs:

Ke = (1/3)(6.05) + (1/3)(7.4) + (1/3)(7.7) = **7.05%**

This estimate is very reasonable when compared to expected long-term overall stock market returns in the 4-9% range and a long-term expected market return of 7.5% (without any flotation charges added), when we consider the low-risk nature of regulated utilities. It is important to recognize that overall stock market conditions have changed over the last three

[69] DCF estimates of Ke were not used by any of the analysts in the Robinson (2007) survey, in which 68% used CAPM. This is because the focus was on which discount rate would be used "in" DCF models, so the use of a discount rate determined by such models would be inappropriate, since it lead to a "circular argument."
[70] Graham, John R., and Harvey, Campbell R. "The Theory and Practice of Corporate Finance: Evidence from the Field." *Journal of Financial Economics* 60 (2001), pp. 187–243.
[71] H. Kent Baker, Shantanu Dutta and Samir Saadi, ,"Corporate Financial Practices in Canada: Where Do We Stand" *Multinational Finance Journal* 15-3, 2011.
[72] J. B. Berk and J. H. van Binsbergen, 2017, "How Do Investors Compute the Discount Rate? They use the CAPM," *Financial Analysts Journal*, Vol. 73, No. 2: pp. 25–32.

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ASSOCIATION OF MAJOR POWER CONSUMERS IN ONTARIO/INDUSTRIAL GAS USERS ASSOCIATION (Dr. Sean Cleary)

Answer to Interrogatory from Ontario Energy Board Staff (OEB Staff)

Reference:

Dr. Cleary Report, pp. 21, 22, 55

Preamble:

Dr. Cleary noted that his recommendation is similar to that of LEI, with two minor qualifications, and agreed that the CORRA should be used to replace the BA rate in the DSTDR methodology.

- LEI recommended extending the current practice of sampling 6 big banks to estimate the spread to a larger sample of 6-10 banks. He is fine with this suggestion, assuming that it does not lead to including less reliable estimates (i.e., from the smaller banks), nor adds unnecessary complexity to the survey process.
- LEI recommended estimating the base CORRA based on the average of 3-month CORRA futures rates over the next 12 months. Since the CORRA is linked directly to the Bank of Canada's rate decisions, he is fine with this suggestion; although, he would also be fine with using the existing CORRA rate as of September 30th of each year as the base CORRA rate.

Dr. Cleary stated that the current annual review process can be supplemented by adding annual reporting requirements for utilities regarding new short-term and long-term debt and equity issued/borrowed during the year.

OEB staff notes that Bloomberg publishes the following ticker each business day, related to Canadian utilities:

BVCAUA3M BVLI	CAD Canada Utilities A+ A A- BVAL
Index	Yield Curve 3 Month

Questions:

a) Instead of using the average of 3-month CORRA futures rates for the next 12-month period, plus conducting a confidential bank survey, what are Dr. Cleary's views on instead using the Bloomberg BVCAUA3M BVLI Index (3-month) for the DSTDR and the prescribed interest rates for DVAs, which has a spread already built in?

be the weight and what would be the resulting allowed cost of equity (Ke)? Please explain.

Responses:

(a) All three approaches were weighted equally to reflect the fact that most analysts use more than one approach to estimating Ke, and as mentioned in Section 5.6 of Dr. Cleary's evidence "all three methods are used in practice and provide different perspectives on Ke." In fact, one of the surveys referenced by Dr. Cleary shows that the BYPRP approach used by Dr. Cleary is more widely used by Canadian CFOs (over 50%) than is the CAPM. While the DCF model is not as widely used in practice by analysts or CFOs, this model should work well for mature utilities, with stable earnings and high payout ratios – whereas it will not work well for fast growing companies, companies with volatile earnings, and/or those with low payout ratios.

Dr. Cleary confirms his view that CAPM is intuitive from a utility hearing perspective, since it is a risk-based, market-based approach that includes a risk-free rate (proxied by 30-year government yields, which is included in the OEB formula), as well as forecasts of MRP, which is also an item of interest during such proceedings. Note also that Dr. Cleary's BYPRP approach is also a risk-based, market-based approach, and that the utility bond yield used in this model includes RF plus a yield spread, which corresponds to the second term included in the OEB formula, reflecting its importance during such proceedings.

(b) Confirmed.

(c) Weight was not assigned to Dr. Cleary's P/B Ke estimates for two reasons. First, while this method is commonly referenced in the CFA curriculum for example, it is not a commonly used approach in the utility proceedings, in Dr. Cleary's experience and observation. As such, the approach is rather used as a useful method to conduct a "reasonableness" check on his Ke estimates, which is based on observable market data. Secondly, there is duplication in the data used in terms of the estimated long-term growth rate estimates, and dividend yields used to apply this approach, both of which are included in Dr. Cleary's DCF estimates. Therefore, simply using the P/B results as a "reasonableness check," allows him to incorporate market data (i.e., market-determined P/B ratios), but without putting additional weight on growth and dividend yield estimates.

(d) A Ke estimate using the P/B ratios would be 6.88% (i.e., the average of the three Canadian Ke estimates after including flotation costs of 7.31%, 6.41% and 6.93% determined in this section). If this KE estimate were equally weighted with the other

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Corporate Finance Practices in Canada: Where Do We Stand?

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This study investigates the financial practices of Canadian firms involving capital budgeting, cost of capital estimation, capital structure, and real options. Survey respondents express a strong preference for net present value followed by internal rate of return and payback methods. The least popular capital budgeting technique is real options. Unlike their U.S. and European counterparts, Canadian firms rely more on subjective risk assessments in adjusting their discount rate. The use of subjective judgment by Canadian managers also applies to risk analysis, forecasting project cash flows, and estimating the cost of equity capital. This finding differs markedly from the widespread use of the capital asset pricing model by U.S. and European firms. In examining capital structure choice, the results show support for trade-off theory relative to pecking order theory. Finally, firm size and the education of the chief executive officer influence corporate finance decisions. (JEL: G35)

Keywords: Capital budgeting, cost of capital, risk analysis, real options.

I. Introduction

This study presents survey results from a large sample of Canadian firms designed to investigate practices involving capital budgeting, cost of equity estimation, capital structure preferences, and real options. For

* Corresponding author. The authors thank the anonymous reviewer as well as Alfred Davis and Fodil Adjaoud for helpful comments and suggestions.

(*Multinational Finance Journal*, 2011, vol. 15, no. 3/4, pp. 157–192)

TABLE 6. How Canadian Firms Estimate the Cost of Equity Capital

			Response Mean				
				Firm Size		CEO with an MBA	
S#	Statement	% of Often or Always	Full Sample	Large	Small	Yes	No
1	Judgment	60.3	2.33	2.01	2.64**	2.39	2.30
5	Cost of debt plus equity risk premium	52.3	2.01	1.85	2.08	1.89	2.07
3	Capital asset pricing model (CAPM)	36.8	1.52	1.96	1.12*	2.36	1.13**
6	Earnings/price (E/P) ratio	21.8	1.02	0.53	1.20*	0.83	1.09
9	Based on what our investors tell us they require	20.0	1.00	0.85	1.07	1.56	0.76*
8	Average historical returns on common stock adjusted for risk	14.1	0.81	0.46	0.93**	0.94	0.79
7	Accounting return on equity	17.5	0.73	0.74	0.73	0.22	0.88*
2	Dividend growth model (dividend yield plus an estimate of growth)	12.9	0.66	0.48	0.74	0.44	0.73
4	Multi-factor asset pricing model	7.1	0.33	0.19	0.40	0.33	0.33
10	By regulatory decisions	5.9	0.29	0.19	0.34	0.01	0.38

Note: This table presents the responses by managers of Canadian firms on how their firms estimate their cost of equity capital. Respondents indicate the frequency level based on a five-point scale where 0 = never, 1 = rarely, 2 = sometimes, 3 = often, and 4 = always. The table partitions the sample by firm size (large and small) and by whether or not the firm's CEO holds an MBA. *, ** indicate significance at the 0.05 and 0.01 levels, respectively.

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British Columbia Utilities Commission

Generic Cost of Capital Proceeding
(Stage 1)

Decision
and Order G-236-23

September 5, 2023

Before:
D. M. Morton, Panel Chair
A. K. Fung, KC, Commissioner
K. A. Keilty, Commissioner
T. A. Loski, Commissioner

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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ONTARIO ENERGY BOARD

2024 REVIEW OF COST OF CAPITAL PARAMETERS AND DEEMED CAPITAL STRUCTURE

EB-2024-0063

Evidence of Dr. Sean Cleary, CFA Professor of Finance

Sponsored by Industrial Gas Users Association (IGUA) and

Association of Major Power Consumers in Ontario (AMPCO)

July 19, 2024

5.2.3 Expected Market Returns and Estimating MRPs

The next CAPM input is the Market Risk Premium (MRP), which is measured by the expected long-term return on the equity market less the long-term government bond yield, which measures RF. Table 7 below provides useful guidance in determining a reasonable estimate for expected stock market returns, which in turn can be used to estimate MRPs, or to assess the reasonableness of MRP estimates. It is broken into two categories: (1) historical returns; and, (2) current (i.e., 2022-24) long-term market forecasts from 4 different sources. It is noteworthy that one of the sources of long-term forecasts (i.e., Horizon) provides summary statistics based on extensive surveys of finance professionals, and hence Table 7 provides a comprehensive view of the forecasts of the professional finance community. In particular, Horizon's report is based on the forecasts of 42 investment advisors, which includes prominent advisory firms (e.g., Aon, Mercer, and Willis Towers Watson), several large commercial and investment banks (e.g., Bank of New York Melon, Goldman Sachs Asset Management, J.P. Morgan Asset Management, Merrill, Morgan Stanley, UBS, etc.), and large asset managers (e.g., BlackRock, The Vanguard Group, etc.). As such, it provides a comprehensive representation of the views of finance professionals managing trillions of dollars of wealth.

Sikes (2022) (page 45) verifies the relevance of expected market returns by the financial community, noting "investors' expected market return should effectively set a ceiling on the ROE approved by regulators as utility stock is less risky than the overall stock market." The AUC for example, has also previously noted that such forecasts are informative and reaffirmed this position in the 2018 Alberta GCOC Decision, stating:

> Consistent with its determinations in previous GCOC decisions, the Commission continues to hold the view that return expectations of finance market professionals are germane to the determination of a fair ROE for regulated utilities.[34]

Hence, the AUC believes that such information is relevant, and I agree. In fact, I would argue that the beliefs of professionals who participate in the markets and influence market activity are far more relevant than market expectations determined using unrealistic growth assumptions, such as those I have seen provided by the utilities' experts in previous proceedings. In other words, market participant beliefs represent an important and practical

[34] Decision 22570-D01-2018, 2018 Generic Cost of Capital, page 97, para. 460.

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(and earnings) is expected to occur at the same annual rate indefinitely (i.e., to infinity). The constant-growth model can be represented as:

$$\text{Price} = D_0(1 + g) / (Ke - g) = D_1/(Ke - g)$$

Where,

Price is the firm's most recent common share market price

D_0 represents the dividends paid over the most recent 12-month period

g represents the expected long-term average growth rate in dividends and earnings

Ke represents the required returns by a firm's common shareholders.

The single-stage DDM is convenient in the sense that it can be easily arranged to solve for the implied rate of return on common shares, as follows if we know their current price and dividends, and can estimate a long-term consistent growth rate:

$$Ke = (D_0/\text{Price})\times(1 + g) + g$$

5.3.2 Market DCF Estimates

Table 1 showed that real GDP growth has averaged 2.3% over the 1992 to 2022 period, which provides one potential estimate of long-term growth that could be used in the single-stage model, since one might expect long-term growth for the overall market to gravitate towards this figure. Similar assumptions are commonly made by financial analysts. The average forecast for real GDP growth for Canada for 2024 provided in Table 3 was 1.1%, which is below the 1.5% forecast from the Bank of Canada in its April 2024 MPR, so the mid-point of these two figures for 2024 growth is 1.3%. The Bank further predicted 2.2% real GDP growth for 2025, which is again higher than the average forecast of 1.9% from other financial organizations – so the mid-point of these estimates is 2.05% or 2.1%. The average of these three future estimates of real growth is 1.9%, which provides another reasonable estimate of future Canadian economic growth. Of course, we are trying to estimate a "nominal" required rate of return, so we should use nominal GDP growth as "g." We can estimate nominal growth rates by applying the 2% Bank of Canada inflation target, which generates the following long-term nominal Canadian GDP growth rate estimates that correspond to three real growth rates noted above: 4.3%, 3.3% and 4.1% - where 3.9% represents the average of these figures. These growth rates are in line with those used by security analysts when they use single-stage growth

models to value securities (i.e., they usually use numbers in the 3-5% range when they use single period models).

The dividend yield for the S&P/TSX Composite Index as of December 31, 2023 was 3.19%. This is the "lagged" dividend yield (i.e., D0/Price) since it is estimated using dividends over the most recent 12-month period. Substituting the average nominal GDP growth estimate of 3.9% noted above into the single-stage DDM equation provided above, we get the following estimate for the implied equity return for the market as a whole for 2024:

$$Ke = (0.0319)\times(1.039) + .039 = 0.0721 \text{ or } \mathbf{7.21\%}$$

Despite the limitations of the model, and with the simplifying assumption of constant growth indefinitely, this estimate seems to be reasonable. It is only slightly below my long-term forecast for expected market returns of 7.5%, but is well above the average forecast for future Canadian stock market returns of 6.1% found in Table 7.

We can overcome one limitation of the single-stage growth model by using a variation of the DDM, called the H-Model. The H-Model is a multi-stage growth version of the DDM. It assumes that growth in dividends moves in linear fashion from some current short-term growth rate (defined as g_S) toward some long-term growth rate (defined as g_L) over a specified period of time, defined as 2H, where H is hence defined as the "half-life." It also offers the advantage that, similar to the single-stage DDM, it can be rearranged to determine a finite solution for Ke, which is shown below:

$$Ke = (D_0/Price)\times[(1 + g_L) + H(g_S - g_L)] + g_L$$

The average of the 2024 and 2025 real GDP growth forecasts of 1.3% and 2.1% respectively is 1.7%, which can be translated into a 3.7% nominal GDP growth rate. I will use this as my short-term growth rate (g_S), and I will use the historical long-term GDP nominal growth rate average of 4.3% as the long-term growth rate (g_L). Assuming it takes four years to get back to this long-term expected growth rate, then we would use H = 2, which provides an estimate for Ke of **7.59%.**

Combining the results from the two DDM models, we get estimates for Ke for the market in the 7.21-7.59% range. Taking the mid-point of these two estimates, we arrive at **7.40%** as my best estimate of the implied return on the market using DCF models, which is virtually identical to my 7.5% estimate for future market returns. DCF models will work better in aggregate than for Canadian utilities, which leaves us with the issue of how to adjust these figures into a

reasonable implied return for utilities that possess considerably less risk than the average company in the market. At minimum, we could say that the market DCF estimates suggest that utility returns should be ***lower than 7.40%***.

5.3.3 Ontario Utility DCF Estimates

I will now apply both of the DCF models discussed above to the utilities' samples. Of course, determining the inputs here is somewhat trickier than for the broad market. A common way of estimating the growth rate for companies is to determine the company's **sustainable growth rate,** which can be estimated by multiplying the earnings retention ratio (which equals "1 – dividend payout ratio") by the ROE, as shown below:

$$g = (1 - \text{payout ratio}) \times \text{ROE}.$$

The intuition behind the use of this formula is that growth in earnings (and dividends) will be positively related to the proportion of each dollar of earnings reinvested in the company multiplied by the return earned on those reinvested funds, which can be measured using ROE. For example, a firm that retains all its earnings and earns 8% on its equity would see its equity base grow by 8 percent per year. If the same firm paid out all of its earnings, it would not grow. It should work quite well for utility firms that pay a significant proportion of their earnings out as dividends, and that possess relatively stable ROE figures that are generally close to allowed ROEs, which do not usually fluctuate by large amounts.

Estimating future earnings growth rates using the sustainable growth rate represents an approach that is included in the CFA curriculum and in numerous academic textbooks, and is widely used in practice. In contrast, relying upon sell-side analyst growth estimates in DCF models, which are known to be overly optimistic, will lead to invalid estimates of Ke when using DCF models. For example, a study by Easton and Sommers[59] estimates the "optimism" bias in analysts' growth forecasts inflates final DCF cost of equity estimates by an average of 2.84%.

The use of these overly optimistic growth forecasts often leads to adopting growth rates for utility earnings and dividends that exceed expected growth in the economy (i.e., nominal GDP

[59] Source: Easton, Peter D., and Gregory A. Sommers. "Effect of Analysts' Optimism on Estimates of the Expected Rate of Return Implied by Earnings Forecasts." Journal of Accounting Research 45 no. 5 (December 2007), pp. 983-1016. This article is appended to my evidence as Attachment BG.

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2241. Research Analysts and Research Reports

(a) Definitions

For purposes of this Rule, the following terms shall be defined as provided.

(1) "Emerging Growth Company" has the same meaning as in Section 3(a)(80) of the Exchange Act.

(2) "Equity security" has the same meaning as defined in Section 3(a)(11) of the Exchange Act.

(3) "Independent third-party research report" means a third-party research report, in respect of which the person producing the report:

(A) has no affiliation or business or contractual relationship with the distributing member or that member's affiliates that is reasonably likely to inform the content of its research reports; and

(B) makes content determinations without any input from the distributing member or that member's affiliates.

(4) "Investment banking department" means any department or division, whether or not identified as such, that performs any investment banking service on behalf of a member.

(5) "Investment banking services" include, without limitation, acting as an underwriter, participating in a selling group in an offering for the issuer or otherwise acting in furtherance of a public offering of the issuer; acting as a financial adviser in a merger or acquisition; providing venture capital or equity lines of credit or serving as placement agent for the issuer or otherwise acting in furtherance of a private offering of the issuer.

(6) "Member of a research analyst's household" means any individual whose principal residence is the same as the research analyst's principal residence. This term does not include an unrelated person who shares the same residence as a research analyst, provided that the research analyst and unrelated person are financially independent of one another.

(7) "Public appearance" means any participation in a conference call, seminar, forum (including an interactive electronic forum) or other public speaking activity before 15 or more persons or before one or more representatives of the media, a radio, television or print media interview, or the writing of a print media article, in which a research analyst makes a recommendation or offers an opinion concerning an equity security. This term does not include a password protected Webcast, conference call or similar event with 15 or more existing customers, provided that all of the event participants previously received the most current research report or other documentation that contains the required applicable disclosures, and that the research analyst appearing at the event corrects and updates during the event any disclosures in the research report that are inaccurate, misleading or no longer applicable.

(8) "Research analyst" means an associated person who is primarily responsible for, and any associated person who reports directly or indirectly to a research analyst in connection with, the preparation of the substance of a research report, whether or not any such person has the job title of "research analyst."

(9) "Research analyst account" means any account in which a research analyst or member of the research analyst's household has a financial interest, or over which such analyst has discretion or control. This term shall not include an investment company registered under the Investment Company Act over which the research analyst or a member of the research analyst's household has discretion or control, provided that the research analyst or member of the research analyst's household has no financial interest in such investment company, other than a performance or management fee. The term also shall not include a "blind trust" account that is controlled by a person other than the research analyst or member of the research analyst's household where neither the research analyst nor a member of the research analyst's household knows of the account's investments or investment transactions.

(10) "Research department" means any department or division, whether or not identified as such, that is principally responsible for preparing the substance of a research report on behalf of a member.

(11) "Research report" means any written (including electronic) communication that includes an analysis of equity securities of individual companies or industries (other than an open-end registered investment company that is not listed or traded on an exchange) and that provides information reasonably sufficient upon which to base an investment decision. This term does not include:

(A) communications that are limited to the following:

(i) discussions of broad-based indices;

(ii) commentaries on economic, political or market conditions;

(iii) technical analyses concerning the demand and supply for a sector, index or industry based on trading volume and price;

(iv) statistical summaries of multiple companies' financial data, including listings of current ratings;

(v) recommendations regarding increasing or decreasing holdings in particular industries or sectors;

(vi) notices of ratings or price target changes, provided that the member simultaneously directs the readers of the notice to the most recent research report on the subject company that includes all current applicable disclosures required by this Rule and that such research report does not contain materially misleading disclosures, including disclosures that are outdated or no longer applicable; or

(B) the following communications, even if they include an analysis of an individual equity security and information reasonably sufficient upon which to base an investment decision:

(i) any communication distributed to fewer than 15 persons;

(ii) periodic reports or other communications prepared for investment company shareholders or discretionary investment account clients that discuss individual securities in the context of a fund's or account's past performance or the basis for previously made discretionary investment decisions; or

(iii) internal communications that are not given to current or prospective customers;

(C) communications that constitute statutory prospectuses that are filed as part of a registration statement; and

(D) communications that constitute private placement memoranda and comparable offering-related documents prepared in connection with investment banking services transactions, other than those that purport to be research.

(12) "Sales and trading personnel" includes persons in any department or division, whether or not identified as such, who perform any sales or trading service on behalf of a member.

(13) "Subject company" means the company whose equity securities are the subject of a research report or public appearance.

(14) "Third-party research report" means a research report that is produced by a person other than the member.

(15) "Covered investment fund" has the meaning given the term in paragraph (c)(2) of Securities Act Rule 139b.

(16) "Covered investment fund research report" has the meaning given that term in paragraph (c)(3) of Securities Act Rule 139b.

(b) Identifying and Managing Conflicts of Interest

(1) A member must establish, maintain and enforce written policies and procedures reasonably designed to identify and effectively manage conflicts of interest related to:

(A) the preparation, content and distribution of research reports;

(B) public appearances by research analysts; and

(C) the interaction between research analysts and those outside of the research department, including investment banking and sales and trading personnel, subject companies and customers.

(2) A member's written policies and procedures must be reasonably designed to promote objective and reliable research that reflects the truly held opinions of research analysts and to prevent the use of research reports or research analysts to manipulate or condition the market or favor the interests of the member or a current or prospective customer or class of customers. Such policies and procedures must:

(A) prohibit prepublication review, clearance or approval of research reports by persons engaged in investment banking services activities and restrict or prohibit such review, clearance or approval by other persons not directly responsible for the preparation, content and distribution of research reports, other than legal and compliance personnel;

(B) restrict or limit input by the investment banking department into research coverage decisions to ensure that research management independently makes all final decisions regarding the research coverage plan;

(C) prohibit persons engaged in investment banking activities from supervision or control of research analysts, including influence or control over research analyst compensation evaluation and determination;

(D) limit determination of the research department budget to senior management, excluding senior management engaged in investment banking services activities;

(E) prohibit compensation based upon specific investment banking services transactions or contributions to a member's investment banking services activities;

(F) require that the compensation of a research analyst who is primarily responsible for preparation of the substance of a research report be reviewed and approved at least annually by a committee that reports to a member's board of directors, or if the member has no board of directors, a senior executive officer of the member. This committee may not have representation from the member's investment banking department and must consider the following factors when reviewing a research analyst's compensation, if applicable:

(i) the research analyst's individual performance, including the analyst's productivity and the quality of the analyst's research;

(ii) the correlation between the research analyst's recommendations and the performance of the recommended securities; and

(iii) the overall ratings received from clients, sales force and peers independent of the member's investment banking department, and other independent ratings services.

The committee must document the basis upon which each such research analyst's compensation was established;

(G) establish information barriers or other institutional safeguards reasonably designed to ensure that research analysts are insulated from the review, pressure or oversight by persons engaged in investment banking services activities or other persons, including sales and trading personnel, who might be biased in their judgment or supervision;

(H) prohibit direct or indirect retaliation or threat of retaliation against research analysts employed by the member or its affiliates by persons engaged in investment banking services activities or other employees as the result of an adverse, negative, or otherwise unfavorable research report or public appearance written or made by the research analyst that may adversely affect the member's present or prospective business interests;

(I) define periods during which the member must not publish or otherwise distribute research reports, and research analysts must not make public appearances, relating to the issuer:

(i) of a minimum of 10 days following the date of an initial public offering if the member has participated as an underwriter or dealer in the initial public offering; or

(ii) of a minimum of three days following the date of a secondary offering if the member has acted as a manager or co-manager of that offering.

This subparagraph (I) shall not apply to the publication or distribution of a research report or a public appearance following: (1) an initial public offering or secondary offering of the securities of an Emerging Growth Company or (2) any offering of the securities of a covered investment fund that is the subject of a covered investment fund research report;

(iii) Subparagraphs (I)(i) and (ii) shall not prevent a member from publishing or otherwise distributing a research report, or prevent a research analyst from making a public appearance, concerning the effects of significant news or a significant event on the subject company within such 10- and three-day periods, and provided further that legal or compliance personnel authorize publication of that research report before it is issued or authorize the public appearance before it is made. Subparagraph (ii) will not prevent a member from publishing or otherwise distributing a research report pursuant to Securities Act Rule 139 regarding a subject company with "actively-traded securities," as defined in Rule 101(c)(1) of SEC Regulation M, and will not prevent a research analyst from making a public appearance concerning such a company.

(J) restrict or limit research analyst account trading in securities, any derivatives of such securities and funds whose performance is materially dependent upon the performance of securities covered by the research analyst, including:

(i) ensuring that research analyst accounts, supervisors of research analysts and associated persons with the ability to influence the content of research reports do not benefit in their trading from knowledge of the content or timing of a research report before the intended recipients of such research have had a reasonable opportunity to act on the information in the research report;

(ii) providing that no research analyst account may purchase or sell any security or any option on or derivative of such security in a manner inconsistent with the research analyst's recommendation as reflected in the most recent research report published by the member, and defining financial hardship circumstances, if any (e.g., unanticipated significant change in the personal financial circumstances of the beneficial owner of the research analyst account), in which the member will permit a research analyst account to trade in a manner inconsistent with such research analyst's most recently published recommendation; and

(iii) prohibiting a research analyst account from purchasing or receiving any security before an issuer's initial public offering if the issuer is principally engaged in the same types of business as companies that the research analyst follows;

(K) prohibit explicit or implicit promises of favorable research, a particular research rating or recommendation or specific research content as inducement for the receipt of business or compensation;

(L) restrict or limit activities by research analysts that can reasonably be expected to compromise their objectivity, including prohibiting:

(i) participation in pitches and other solicitations of investment banking services transactions; and

(ii) participation in road shows and other marketing on behalf of an issuer related to an investment banking services transaction;

(M) prohibit investment banking department personnel from directly or indirectly:

(i) directing a research analyst to engage in sales or marketing efforts related to an investment banking services transaction; and

(ii) directing a research analyst to engage in any communication with a current or prospective customer about an investment banking services transaction; and

(N) prohibit prepublication review of a research report by a subject company for purposes other than verification of facts.

(c) Content and Disclosure in Research Reports

(1) A member must establish, maintain and enforce written policies and procedures reasonably designed to ensure that:

(A) purported facts in its research reports are based on reliable information; and

(B) any recommendation, rating or price target has a reasonable basis and is accompanied by a clear explanation of any valuation method used and a fair presentation of the risks that may impede achievement of the recommendation, rating or price target.

(2) A member that employs a rating system must clearly define in each research report the meaning of each rating in the system, including the time horizon and any benchmarks on which a rating is based. The definition of each rating must be consistent with its plain meaning.

(A) Irrespective of the rating system a member employs, a member must include in each research report that includes a rating the percentage of all securities rated by the member to which the member would assign a "buy," "hold" or "sell" rating.

(B) A member must disclose in each research report the percentage of subject companies within each of the "buy," "hold" and "sell" categories for which the member has provided investment banking services within the previous 12 months.

(C) The information required in paragraphs (c)(2)(A) and (B) must be current as of the end of the most recent calendar quarter or the second most recent calendar quarter if the publication date of the research report is less than 15 calendar days after the most recent calendar quarter.

(3) If a research report contains either a rating or price target for a subject company's security, and the member has assigned a rating or price target to such security for at least one year, the research report must include a line graph of the security's daily closing prices for the period that the member has assigned any rating or price target or for a three-year period, whichever is shorter. The graph must:

(A) indicate the dates on which the member assigned or changed each rating or price target;

(B) depict each rating or price target assigned or changed on those dates; and

(C) be current as of the end of the most recent calendar quarter (or the second most recent calendar quarter if the publication date of the research report is less than 15 calendar days after the most recent calendar quarter).

(4) A member must disclose in any research report at the time of publication or distribution of the report:

(A) if the research analyst or a member of the research analyst's household has a financial interest in the debt or equity securities of the subject company (including, without limitation, whether it consists of any option, right, warrant, future, long or short position), and the nature of such interest;

(B) if the research analyst has received compensation based upon (among other factors) the member's investment banking revenues;

(C) if the member or any of its affiliates:

(i) managed or co-managed a public offering of securities for the subject company in the past 12 months;

(ii) received compensation for investment banking services from the subject company in the past 12 months; or

(iii) expects to receive or intends to seek compensation for investment banking services from the subject company in the next three months;

(D) if, as of the end of the month immediately preceding the date of publication or distribution of a research report (or the end of the second most recent month if the publication or distribution date is less than 30 calendar days after the end of the most recent month), the member or its affiliates have received from the subject company any compensation for products or services other than investment banking services in the previous 12 months;

(E) if the subject company is, or over the 12-month period preceding the date of publication or distribution of the research report has been, a client of the member, and if so, the types of services provided to the issuer. Such services, if applicable, shall be identified as either investment banking services, non-investment banking securities-related services or non-securities services;

(F) if the member or its affiliates beneficially own 1% or more of any class of common equity securities of the subject company;

(G) if the member was making a market in the securities of the subject company at the time of publication or distribution of the research report;

(H) if the research analyst received any compensation from the subject company in the previous 12 months; and

(I) any other material conflict of interest of the research analyst or member that the research analyst or an associated person of the member with the ability to influence the content of a research report knows or has reason to know at the time of the publication or distribution of a research report.

(5) A member or research analyst will not be required to make a disclosure required by paragraph (c)(4) to the extent such disclosure would reveal material non-public information regarding specific potential future investment banking transactions.

(6) The disclosures required by this paragraph (c) must be presented on the front page of research reports or the front page must refer to the page on which the disclosures are found. Electronic research reports may provide a hyperlink directly to the required disclosures. All disclosures and references to disclosures required by this Rule must be clear, comprehensive and prominent.

(7) A member that distributes a research report covering six or more subject companies (a "compendium report") may direct the reader in a clear manner as to where the reader may obtain applicable current disclosures required by this paragraph (c). Electronic compendium reports may include a hyperlink directly to the required disclosures. Paper-based compendium reports must provide either a toll free number to call or a postal address to request the required disclosures and may also include a web address where the disclosures can be found.

(d) Disclosure in Public Appearances

(1) A research analyst must disclose in public appearances:

(A) if the research analyst or a member of the research analyst's household has a financial interest in the debt or equity securities of the subject company (including, without limitation, whether it consists of any option, right, warrant, future, long or short position), and the nature of such interest;

(B) if the member or its affiliates beneficially own 1% or more of any class of common equity securities of the subject company;

(C) if, to the extent the research analyst knows or has reason to know, the member or any affiliate received any compensation from the subject company in the previous 12 months;

(D) if the research analyst received any compensation from the subject company in the previous 12 months;

(E) if, to the extent the research analyst knows or has reason to know, the subject company currently is, or during the 12-month period preceding the date of publication or distribution of the research report, was, a client of the member. In such cases, the research analyst also must disclose the types of services provided to the subject company, if known by the research analyst; or

(F) any other material conflict of interest of the research analyst or member that the research analyst knows or has reason to know at the time of the public appearance.

(2) A member or research analyst will not be required to make a disclosure required by this paragraph (d) to the extent such disclosure would reveal material non-public information regarding specific potential future investment banking transactions of the subject company.

(3) Members must maintain records of public appearances by research analysts sufficient to demonstrate compliance by those research analysts with the applicable disclosure requirements in this paragraph (d). Such records must be maintained for at least three years from the date of the public appearance.

(e) Disclosure Required by Other Provisions

In addition to the disclosures required by paragraphs (c) and (d), members and research analysts must comply with all applicable disclosure provisions of FINRA Rule 2210 and the federal securities laws.

(f) Termination of Coverage

A member must promptly notify its customers if it intends to terminate coverage of a subject company. Such notice must be made using the member's ordinary means to disseminate research reports on the subject company to its various customers. The notice must be accompanied by a final research report, comparable in scope and detail to prior research reports, and include a final recommendation or rating. If impracticable to provide a final research report, recommendation or rating, a member must disclose to its customers its reason for terminating coverage.

(g) Distribution of Member Research Reports

A member must establish, maintain and enforce written policies and procedures reasonably designed to ensure that a research report is not distributed selectively to internal trading personnel or a particular customer or class of customers in advance of other customers that the member has previously determined are entitled to receive the research report.

(h) Distribution of Third-Party Research Reports

(1) Subject to paragraph (h)(5), a registered principal or supervisory analyst approved pursuant to Incorporated Rule 1220(a)(14) must review for compliance with the applicable provisions of paragraph (h) and approve by signature or initial all third-party research reports distributed by a member.

(2) A member may not distribute third-party research if it knows or has reason to know such research is not objective or reliable.

(3) A member must establish, maintain and enforce written policies and procedures reasonably designed to ensure that any third-party research it distributes contains no untrue statement of material fact and is otherwise not false or misleading. For the purposes of this paragraph (h)(3) only, a member's obligation to review a third-party research report extends to any untrue statement of material fact or any false or misleading information that:

(A) should be known from reading the report; or

(B) is known based on information otherwise possessed by the member.

(4) A member must accompany any third-party research report it distributes with, or provide a web address that directs a recipient to, disclosure of any material conflict of interest that can reasonably be expected to have influenced the choice of a third-party research provider or the subject company of a third-party research report, including the disclosures required by paragraphs (c)(4)(C), (c)(4)(F), (c)(4)(G) and (c)(4)(I) of this Rule.

(5) A member shall not be required to review a third-party research report to determine compliance with paragraph (h)(3) if such research report is an independent third-party research report.

(6) A member shall not be considered to have distributed a third-party research report for the purposes of paragraph (h)(4) where the research is an independent third-party research report and is made available by a member (a) upon request; (b) through a member-maintained website; or (c) to a customer in connection with a solicited order in which the registered representative has informed the

customer, during the solicitation, of the availability of independent research on the solicited equity security and the customer requests such independent research.

(7) A member must ensure that a third-party research report is clearly labeled as such and that there is no confusion on the part of the recipient as to the person or entity that prepared the research report.

(i) Exemption for Members with Limited Investment Banking Activity

The provisions of paragraphs (b)(2)(A), (B), (C), (D), (F) and (G) shall not apply to members that over the previous three years, on average per year, have participated in 10 or fewer investment banking services transactions as manager or co-manager and generated $5 million or less in gross investment banking revenues from those transactions; provided, however, that with respect to paragraph (b)(2)(G), such members must establish information barriers or other institutional safeguards reasonably designed to ensure that research analysts are insulated from pressure by persons engaged in investment banking services activities or other persons, including sales and trading personnel, who might be biased in their judgment or supervision. For the purposes of this paragraph (i), the term "investment banking services transactions" include the underwriting of both corporate debt and equity securities but not municipal securities. Members that qualify for this exemption must maintain records sufficient to establish eligibility for the exemption and also maintain for at least three years any communication that, but for this exemption, would be subject to paragraphs (b)(2)(A), (B), (C), (D), (F) and (G).

(j) Exemption for Good Cause

Pursuant to the Rule 9600 Series, FINRA may in exceptional and unusual circumstances, conditionally or unconditionally grant an exemption from any requirement of this Rule for good cause shown after taking into account all relevant factors, to the extent such exemption is consistent with the purposes of the Rule, the protection of investors, and the public interest.

• • • Supplementary Material: ----------

.01 Efforts to Solicit Investment Banking Business

(a) FINRA interprets paragraph (b)(2)(L)(i) to prohibit in pitch materials any information about a member's research capacity in a manner that suggests, directly or indirectly, that the member might provide favorable research coverage. For example, FINRA would consider the publication in a pitch book or related materials of an analyst's industry ranking to imply the potential outcome of future research because of the manner in which such rankings are compiled. On the other hand, a member would be permitted to include in the pitch materials the fact of coverage and the name of the research analyst because such information alone does not imply favorable coverage.

Members must consider whether the facts and circumstances of any solicitation or engagement would warrant disclosure under Section 17(b) of the Securities Act.

(b) Paragraph (b)(2)(L)(i) shall not prevent a research analyst from attending a pitch meeting in connection with an initial public offering of an Emerging Growth Company that also is attended by investment banking personnel; provided, however, that a research analyst may not engage in otherwise prohibited conduct in such meetings, including efforts to solicit investment banking business.

.02 Joint Due Diligence. FINRA interprets paragraph (b)(1)(C) to prohibit the performance of joint due diligence (i.e., confirming the adequacy of disclosure in offering or other disclosure documents for a transaction) by the research analyst in the presence of investment banking department personnel prior to the selection by the issuer of the underwriters for the investment banking services transaction.

.03 Restrictions on Communications with Customers and Internal Personnel

(a) Consistent with the requirements of paragraph (b)(2)(M) of this Rule, no research analyst may engage in any communication with a current or prospective customer in the presence of investment banking department personnel or company management about an investment banking services transaction.

(b) FINRA interprets paragraph (b)(1)(C) of this Rule to require that any written or oral communication by a research analyst with a current or prospective customer or internal personnel related to an investment banking services transaction must be fair, balanced and not misleading, taking into consideration the overall context in which the communication is made.

.04 Disclosure of Non-Investment Banking Services Compensation. A member may satisfy the disclosure requirement in paragraph (c)(4)(D) with respect to receipt of non-investment banking services compensation by an affiliate by implementing policies and procedures reasonably designed to prevent the research analyst and associated persons of the member with the ability to influence the content of research reports from directly or indirectly receiving information from the affiliate as to whether the affiliate received such compensation. However, a member must disclose receipt of non-investment banking services compensation by its affiliates from the subject company in the past 12 months when the research analyst or an associated person with the ability to influence the content of a research report has actual knowledge that an affiliate received such compensation during that time period.

.05 Submission of Sections of a Draft Research Reports for Factual Review. Consistent with the requirements of paragraphs (b)(2)(A) and (b)(2)(N), sections of a draft research report may be provided to non-investment banking personnel or to the subject company for factual review so long as:

(a) the sections of the report submitted do not contain the research summary, the research rating or the price target;

(b) a complete draft of the report is provided to legal or compliance personnel before sections of the report are submitted to non-investment banking personnel or the subject company; and

(c) if, after submitting sections of the report to non-investment banking personnel or the subject company, the research department intends to change the proposed rating or price target, it must first provide written justification to, and receive written authorization from, legal or compliance personnel for the change. The member must retain copies of any draft and the final version of such report for three years after publication.

.06 Beneficial Ownership of Equity Securities. With respect to paragraphs (c)(4)(F) and (d)(1)(B), beneficial ownership of any class of common equity securities shall be computed in accordance with the same standards used to compute ownership for purposes of the reporting requirements under Section 13(d) of the Exchange Act.

.07 Distribution of Member Research Products. With respect to paragraph (g), a member may provide different research products and services to different classes of customers. For example, a member may offer one research product for those with a long-term investment horizon ("investor research") and a different research product for those customers with a short-term investment horizon ("trading research"). These products may lead to different recommendations or ratings, provided that each is consistent with the meaning of the member's ratings system for each respective product. However, a member may not differentiate a research product based on the timing of receipt of a recommendation, rating or other potentially market moving information, nor may a member label a research product with substantially the same content as a different product as a means to allow certain customers to trade in advance of other customers. In addition, a member that provides different research products and services for different customers must inform its other customers that its alternative research products and services may reach different conclusions or recommendations that could impact the price of the equity security. Thus, for example, a member that offers trading research must inform its investment research customers that its trading research product may contain different recommendations or ratings that could result in short-term price movements contrary to the recommendation in its investment research.

.08 Ability to Influence the Content of a Research Report. For the purposes of this Rule, an associated person with the ability to influence the content of a research report is an associated person who is required to review the content of the research report or has exercised authority to review or change the research report prior to publication or distribution. This term does not include legal or compliance personnel who may review a research report for compliance purposes but are not authorized to dictate a particular recommendation, rating or price target.

.09 Obligations of Persons Associated with a Member. Consistent with Rule 0140, persons associated with a member must comply with such member's written policies and procedures as established pursuant to this Rule 2241. In addition, consistent with Rule 0140, it shall be a violation of this Rule for an associated person to engage in the restricted or prohibited conduct to be addressed through the establishment, maintenance and enforcement of policies and procedures required by this Rule or related Supplementary Material.

.10 Divesting Research Analyst Holdings. With respect to paragraph (b)(2)(J)(ii), FINRA shall not consider a research analyst account to have traded in a manner inconsistent with a research analyst's recommendation where a member has instituted a policy that prohibits any research analyst from holding securities, or options on or derivatives of such securities, of the companies in the research analyst's coverage universe; provided that the member establishes a reasonable plan to liquidate such holdings consistent with the principles in paragraph (b)(2)(J)(i) and such plan is approved by the member's legal or compliance department.

Amended by SR-FINRA-2019-017 eff. Aug. 16, 2019.
Amended by SR-FINRA-2019-009 eff. May 8, 2019.
Adopted by SR-FINRA-2014-047 eff. Sept. 25, 2015 and Dec. 24, 2015.

Selected Notice: 15-30, 19-32.

‹ 2240. CONFLICTS OF INTEREST UP 2242. DEBT RESEARCH ANALYSTS AND DEBT RESEARCH REPORTS ›

VERSIONS

Aug 16, 2019 onwards

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ONTARIO ENERGY BOARD

2024 REVIEW OF COST OF CAPITAL PARAMETERS AND DEEMED CAPITAL STRUCTURE

EB-2024-0063

Evidence of Dr. Sean Cleary, CFA Professor of Finance

Sponsored by Industrial Gas Users Association (IGUA) and

Association of Major Power Consumers in Ontario (AMPCO)

July 19, 2024

to invest in a firm's stocks than its bonds. The riskier the company, the greater the difference between these required returns (i.e., the greater the risk premium).

This approach employs solid intuition. For one thing, it overcomes technical issues that arise when beta estimates are suspect due to extreme market movements, such as those observed during the early 2000s, or difficulties in estimating future growth rates in dividends and earnings. In fact, as a risk-based model, there is a relationship with the CAPM in several ways. For example, the firm's yield on outstanding debt will be related to RF, as well as to yield spreads which will vary with market conditions, just as the MRP does in the CAPM. Also, we can "adjust" the risk premium applied to a particular firm according to its riskiness - one measure of which might be by making reference to its typical beta (i.e., lower company risk premiums should be used for firms with lower betas and vice-versa).

The first step in applying the BYPRP approach is to obtain an estimate of the cost of long-term yields on a typical utility. As of June 5, 2024 the yield on long-term A-rated Canadian utility bonds was 4.68% according to the Bloomberg data used to construct Figure 3. This figure is close to the average yield of 4.78% on bonds outstanding for five Canadian utilities, as provided below. For example the following bid and ask yields were observed as of June 6, 2024 (according to Bloomberg):

Description	S&P	Fitch	DBRS	Moody's	Maturity Date	Bid Yield	Ask Yield	Mid-Point
Fortis Alberta Inc	A-		A(low)	Baa1u	Oct-52	4.761	4.68	4.7205
Fortis BC Inc			A(low)	Baa1	Jul-47	4.934	4.867	4.9005
CU Inc		A	A(high)		Nov-50	4.772	4.705	4.7385
Enbridge Gas Inc	A-		A		Nov-50	4.846	4.798	4.822
Hydro One Inc	A-		A(high)	A3	Dec-51	4.758	4.704	4.731
As of June 06, 2024					**Average**	4.8142	4.7508	**4.7825**

This evidence implies that 4.7% is a reasonable starting point for my BYPRP estimate.

We now need to determine the appropriate risk premium to add to this. As mentioned, the usual range is 2-5%, with 3.5% being commonly used for average risk companies, and lower values for less risky companies. Given the low risk nature of Canadian regulated utilities, a low risk

premium is appropriate, suggesting the use of a 2-3% range, with a best estimate of 2.5%.[66] Combining this information, I obtain the following estimate for Ke according to this approach:

Ke = 4.7 + 2.5 = **7.2%**

If we add 50 bp for flotation costs, we end up with a Ke estimate **7.7%**. This is on the high side given my market estimate of 8% (if we add 0.50% to my raw market estimate of 7.5%). It is also well above my CAPM estimate of 6.1% and 30 bp above my DCF estimate of 7.4%.

5.5 Price-to-Book Ratios and Equity Returns

Table 10 reported a 2023 average ROE for the 5 Canadian utilities in the Canadian sample of 7.76%, with a 2017-2023 average of 8.51%. These averages are well below the 2024 allowed ROE for regulated Ontario utilities of 9.21%. The allowed ROE is higher than those for the Canadian sample of publicly listed utilities; albeit most of those utilities are holding companies that hold assets in several jurisdictions that are riskier than Ontario, and most also hold unregulated assets. This indicates that 9.21% is a very healthy allowed ROE, considering that we know regulated operating Ontario utilities are much less risky than the average Canadian publicly listed utility company, which are holding companies. In fact, the allowed ROE of 9.21% is well above the required equity return estimates (after adding flotation costs) determined using the CAPM, DCF and BYPRP approaches, with best estimates of 6.05%, 7.4% and 7.7% respectively. All of this suggests that Ontario utilities (if publicly listed) would make attractive debt and equity investments based on their allowed ROEs and low risk profiles. Certainly, from an investor's point of view, low-risk utilities that have regulated returns based on their risk level are attractive. For example, assume an investor used CAPM to determine his required rate of return for an average regulated utility and arrived at the 6.05% figure that was determined above and the utility earned the currently allowed ROE of 9.21%. Of course, this does not mean that the actual return on the stock was 9.21%; however, there is an obvious relationship between the two. I examine this relationship below by reference to price-to-book (P/B) ratios and stock returns.

[66] For example, Attachment AH provides an example of implementing the BYPRP approach for IBM from the CFA curriculum, where a risk premium of 2.75% is added to cost of IBM's debt. Clearly IBM is riskier than a regulated A-rated utility, so 2.5% is very reasonable by comparison.

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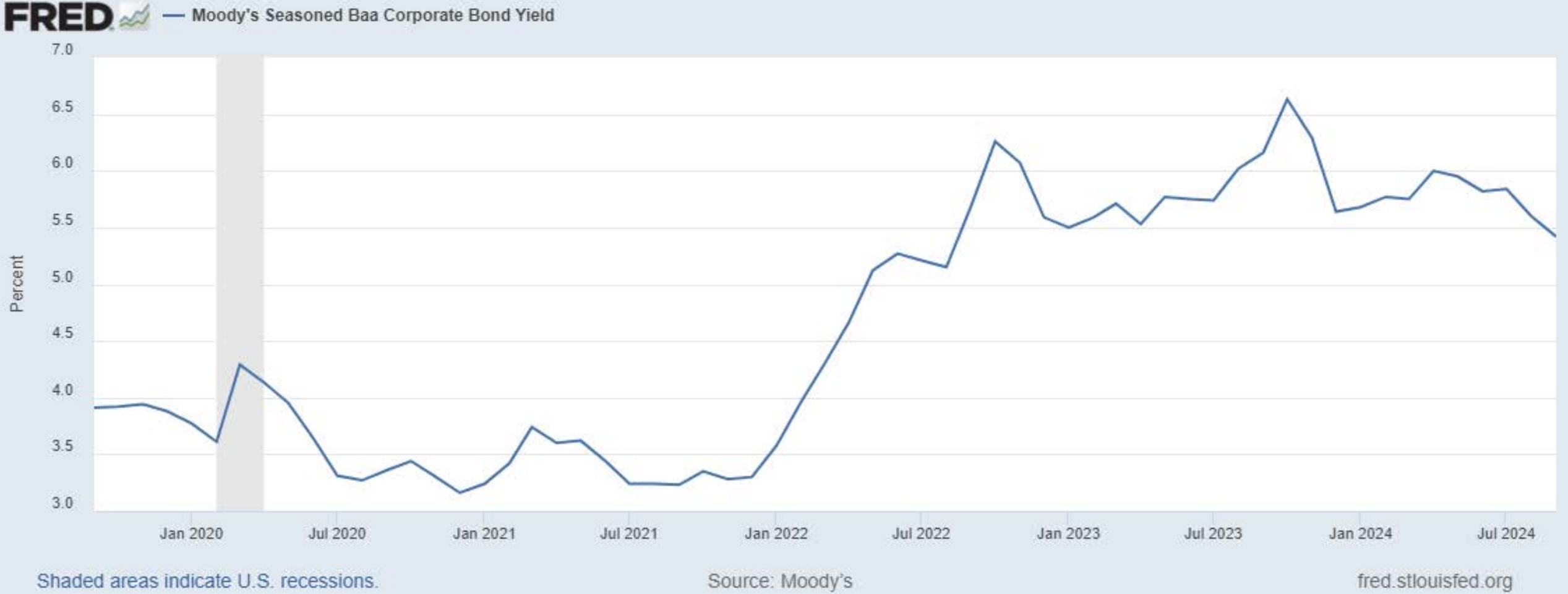
FRED
Moody's Seasoned Baa Corporate Bond Yield
Percent
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
Jan 2020
Jul 2020
Jan 2021
Jul 2021
Jan 2022
Jul 2022
Jan 2023
Jul 2023
Jan 2024
Jul 2024
Shaded areas indicate U.S. recessions.
Source: Moody's
fred.stlouisfed.org

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BYPRP Example – CFA Curriculum

The default risk premium captures factors such as profitability, the sensitivity of profitability to the business cycle, and leverage (operating and financial) that also affect the returns to equity. The risk premium in Equation 13 is the premium that compensates for the additional risk of the equity issue compared with the debt issue (recognizing that debt has a prior claim on the cash flows of the company). In US markets, the typical risk premium added is 3–4 percent, based on experience.

EXAMPLE 9 The Cost of Equity of IBM from Two Perspectives

You are valuing the stock of International Business Machines Corporation (NYSE: IBM) as of early August 2013, and you have gathered the following information:

30-year T-bond YTM:	3.70%
IBM 4s of 2042 YTM:	4.43%

The IBM bonds, you note, are investment grade (rated AA– by Standard & Poor's, Aa3 by Moody's Investors Service, and A+ by Fitch). The beta on IBM stock is 0.73. In prior valuations you have used a risk premium of 3 percent in the bond yield plus risk premium approach. However, the estimated beta of IBM has decreased over the past five years. As a matter of judgment, you have decided as a consequence to use a risk premium of 2.75 percent in the bond yield plus risk premium approach.

1. Calculate the cost of equity using the CAPM. Assume that the equity risk premium is 4.20 percent.
2. Calculate the cost of equity using the bond yield plus risk premium approach, with a risk premium of 2.75 percent.
3. Suppose you found that IBM stock, which closed at $195.04 on 31 July 2013, was slightly undervalued based on a DCF valuation using the CAPM cost of equity from Question 1. Does the alternative estimate of the cost of equity from Question 2 support the conclusion based on Question 1?

Solution to 1: 3.70% + 0.73(4.20%) = 6.77%.

Solution to 2: Add 2.75 percent to the IBM bond YTM: 4.43% + 2.75% = 7.18%. Note that the difference between the IBM bond YTM and T-bond YTM is 0.73 percent, or 73 basis points. This amount plus 2.75 percent is the total estimated risk premium versus Treasury debt, 0.73% + 2.75% = 3.48%.

Solution to 3: Not necessarily; *undervalued* means that the value of a security is greater than market price. All else being equal, the lower the discount rate, the higher the estimate of value. The inverse relationship between discount rate and value, holding all else constant, is a basic relationship in valuation. If IBM appears to be undervalued using the CAPM cost of equity estimate of 6.77 percent, that does not necessarily mean it will also *appear to be undervalued using a 7.18 percent cost of equity based on the bond yield* plus risk premium method.

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CFA INSTITUTE INVESTMENT SERIES

EQUITY ASSET VALUATION

SECOND EDITION

Jerald E. Pinto, CFA/Elaine Henry, CFA/Thomas R. Robinson, CFA/John D. Stowe, CFA

The YTM on the company's long-term debt includes

- A real interest rate and a premium for expected inflation, which are also factors embodied in a government bond yield.
- A default risk premium.

The default risk premium captures factors such as profitability, the sensitivity of profitability to the business cycle, and leverage (operating and financial) that also affect the returns to equity. The risk premium in Equation 2-13 is the premium that compensates for the additional risk of the equity issue compared with the debt issue (recognizing that debt has a prior claim on the cash flows of the company). In U.S. markets, the typical risk premium added is 3 to 4 percent, based on experience.

In the first edition of the book from which this chapter was taken, IBM's required return was estimated as 12.9 percent using the CAPM; the inputs used were an equity risk premium estimate of 5.7 percent, a beta of 1.24, and a risk-free rate of 5.8. Based on the YTM of 6.238 percent for the IBM 8.375s of 2019, a bond yield plus risk premium estimate was 9.2 percent.

EXAMPLE 2-9 The Cost of Equity of IBM from Two Perspectives

You are valuing the stock of International Business Machines Corporation (NYSE: IBM) as of early September 2007, and you have gathered the following information:

20-year T-bond YTM	5.0%
IBM 8.375s of 2019 YTM	5.632%

The IBM bonds, you note, are investment grade (rated A1 by Standard & Poor's, A+ by Moody's Investors Service, and A by Fitch). The beta on IBM stock is 1.72. In prior valuations you have used a risk premium of 3 percent in the bond yield plus risk premium approach. However, the estimated beta of IBM has increased by more than one-third over the past five years. As a matter of judgment, you have decided as a consequence to use a risk premium of 3.5 percent in the bond yield plus risk premium approach.

1. Calculate the cost of equity using the CAPM. Assume that the equity risk premium is 4.5 percent.
2. Calculate the cost of equity using the bond yield plus risk premium approach, with a risk premium of 3.5 percent.
3. Suppose you found that IBM stock, which closed at 117.43 on 4 September 2007, was slightly undervalued based on a DCF valuation using the CAPM cost of equity from question 1. Does the alternative estimate of the cost of equity from question 2 support the conclusion based on question 1?

Solution to 1: 5% + 1.72(4.5%) = 12.7%.

Solution to 2: Add 3.5 percent to the IBM bond YTM: 5.632% + 3.5% = 9.132%, or 9.1 percent. Note that the difference between the IBM bond YTM and T-bond

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Determination of the Cost-of-Capital Parameters in 2024 and Beyond

October 9, 2023

166. The government bond risk premium approach estimates the ROE as the sum of the ERP and the yield on the 30-year U.S. Treasury bond. The ERP was calculated as the difference between authorized returns from U.S. electric and gas utilities and the then-prevailing quarterly 30-year U.S. Treasury yield. Consistent with prior GCOC decisions,[186] the Commission continues to be of the view that the approved ROEs from other jurisdictions are not, strictly speaking, wholly market-based data and therefore, will not place any weight on the results of the government bond risk premium model.

167. Under the utility bond risk premium approach, a required ROE is calculated by adding an equity premium to a utility bond yield. In past GCOC decisions, the Commission accepted the bond yield and utility bond yield approaches to be valid tools in estimating the cost of equity, as they are simple to use and conform to the basic principle that investors require a higher return for assets with greater risk. Although the Commission still considers the empirical basis of the utility bond yield methodology to be valid, for the purposes of this decision the Commission will not rely on the utility bond yield risk premium approaches used by Dr. Cleary and D. D'Ascendis.

168. Dr. Cleary's recommended risk premium of 2.50 per cent is subjective, not supported by any analysis and does not take into the account the changing market environment. D. D'Ascendis's risk premiums are estimated in a more rigorous manner; however, they have issues of their own. For one of his models, D. D'Ascendis used the authorized ROEs from litigated cases in other jurisdictions to estimate the utility bond ERP.[187] As stated earlier, the Commission prefers not to use authorized ROEs as a proxy for market data. For the other two models, D. D'Ascendis relied on market data; however, they require the Commission's determinations on a number of new variables such as the expected utility bond yields and expected returns for an index of U.S. utilities.[188] Variables and calculations in D. D'Ascendis's bond yield risk premium models were not explored in depth in this proceeding, and in the Commission's view, the merits of the utility bond risk premium approach do not outweigh the additional burden and empirical difficulties associated with measuring the ERP to utility bond yield, given the presence of the more widely accepted CAPM and DCF models.

169. Finally, the predictive risk premium model is based on the ARCH/GARCH[189] models that use historical volatility to predict future volatility, which can then be translated to a predicted ERP. The predictive risk premium model estimates the ERP directly, by predicting volatility or risk.[190] In the Commission's view, this analysis is similar in concept to the technical analysis of market data that relies only on historical time series data for a single indicator, for example, returns on a stock, to predict future returns for this stock. The Commission is not persuaded that this approach is superior to the CAPM and DCF models that use a variety of inputs to estimate the ERP and/or required return, especially as the predictive risk premium model approach is not used widely, if at all, by other regulators.

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186 Decision 22570-D01-2018, PDF pages 88-91.

187 Exhibit 27084-X0390, D'Ascendis evidence, PDF page 64.

188 In Exhibit 27084-X0390, PDF page 63, D'Ascendis explained, "As done for the S&P TSX Composite and the S&P 500, using dividend and EPS growth rate data from Bloomberg, I calculated projected total returns of the S&P/TSX Capped Utilities."

189 The Autoregressive Conditional Heteroskedasticity (ARCH) and Generalized Autoregressive Conditional Heteroskedasticity (GARCH) models are based on the premise that the volatility of prices and returns clusters over time and is therefore highly predictable.

190 Exhibit 27084-X0390, D'Ascendis evidence, PDF pages 54-60.

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2016 Generic Cost of Capital

October 7, 2016

captured in both the bond yield and the risk premium component of the BYPRPM.[286] Still, Dr. Cleary recommended using the same 2.5 per cent risk premium value he recommended in the 2013 GCOC proceeding. Given the Commission's observations in Section 4 with respect to market volatility, the risk premium component of the BYPRPM may need to be higher than Dr. Cleary's proposed premium.

227. Notwithstanding this criticism with respect to the risk premium, bond yield observations, particularly as they may change from one GCOC proceeding to the next, are of assistance to the Commission in understanding directional changes in investor risk perceptions. In this regard, the Commission observes from the evidence of Dr. Villadsen that during the course of the 2013 GCOC proceeding, the 30-year Canadian A-rated bond yields were 4.12 per cent on May 31, 2014, and 4.06 per cent on July 31, 2014, and from the evidence of Dr. Cleary, that long-term A-rated Canadian utility bond yields on February 3, 2016, were 4.03 per cent. In comparing the similarity of Canadian A-rated bond yields to the yields on Canadian A-rated utility bond yields, the Commission notes the comment of Dr. Booth that "currently the market seems to be valuing similarly rated utility and non-utility A-rated debt the same."[287]

228. In the 2013 GCOC decision, the Commission agreed with Dr. Cleary's view that the BYPRPM approach holds a certain appeal for finance professionals because it is simple to use and conforms with the basic principle of finance that investors require a higher return for assets with greater risk. However, the Commission also observed that this approach has somewhat of an *ad hoc* nature and may not be advantageous in the environment of historically low interest rates because unlike CAPM, it may not precisely account for the inverse relationship between the risk premium and the level of interest rates. As a result, the Commission did not place a significant weight on this test in determining a fair allowed ROE for the affected utilities.[288] The Commission also considered the fact that there was ample evidence on CAPM in the 2013 GCOC proceeding.

229. The Commission continues to agree with its views in the 2013 GCOC decision that this approach is *ad hoc* and it may not apply in an environment of historically low interest rates. However, in the Commission's view, the BYPRPM method does provide the Commission with information on the direction in which a fair allowed ROE must move in order to meet utility equity investors' perceptions of changes in risk.

230. The Commission considers that the underlying factors within the BYPRPM method are directionally informative when estimating a fair ROE. The Commission will consider the results of Dr. Cleary's BYPRPM, recognizing that Dr. Cleary's risk premium of 2.5 per cent may need to be higher.

6.4 Discounted cash flow model

6.4.1 Discounted cash flow methodology and predictive value

231. The DCF approach is used to estimate the cost of a company's common equity based on the current dividend yield of the company's shares plus the expected future dividend growth rate. The DCF method calculates ROE as the rate of return that equates the present value of the estimated future stream of dividends to the current share price.

[286] Transcript, Volume 10, page 1480, lines 4-14.
[287] Exhibit 20622-X0242, evidence of Dr. Booth, PDF page 33.
[288] Decision 2191-D01-2015, paragraphs 260-262.

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2015 CarswellAlta 520
Alberta Utilities Commission

2013 Generic Cost of Capital, Re

2015 CarswellAlta 520, [2015] A.W.L.D. 2335, [2015] A.W.L.D. 2338, 19 C.C.P.B. (2nd) 4

2013 Generic Cost of Capital

Mark Kolesar V-Chair, Bill Lyttle, Member, Tudor Beattie, Member

Judgment: March 23, 2015
Docket: 2191-D01-2015

Counsel: No one for ATCO Electric Ltd.
No one for ATCO Gas
No one for ATCO Pipelines
No one for AltaGas Utilities Inc.
No one for Canadian Association of Petroleum Producers (CAPP)
No one for Consumers' Coalition of Alberta (CCA)
No one for EPCOR Distribution & Transmission Inc.
No one for Encana Corporation
No one for ENMAX Power Corporation
No one for FortisAlberta Inc.
No one for NOVA Gas Transmission Ltd.
No one for TransAlta Corporation (TransAlta)
R. Finn, for Alberta Utilities Commission

Subject: Corporate and Commercial; Public; Employment
Related Abridgment Classifications
Pensions
IV Miscellaneous
Public law
IV Public utilities
IV.6 Miscellaneous
Headnote
Public law --- Public utilities — Miscellaneous
Commission issued letter requesting comments from interested parties on scope of matters that should be considered in Generic Cost of Capital proceeding — Submissions were made — Decision made concerning approved return on equity (ROE) for all affected utilities for years 2013, 2014, and 2015, and concerning individual deemed equity ratios for each affected utility — Final approved ROE for 2013, 2014, and 2015 was set at 8.3 per cent — Equity ratios awarded to specified utilities were set out, ranging from 36 to 42 per cent — ROE and equity ratios awarded would remain in place on interim basis for 2016 and for subsequent years until changed by Commission — Specified utilities were to apply to adjust their rates to implement findings of decision.
Pensions --- Miscellaneous
Use of return expectations of finance market professionals, such as investment managers, pension fund managers and economists, in determination of fair return on equity for regulated utilities.
Table of Authorities
Cases considered:
Alberta Electric System Operator, Re (2013), 2013 CarswellAlta 1896 (Alta. U.C.) — followed

historical levels fails to take account of the inverse relationship between interest rates and risk premiums. The result will thus understate the cost of equity." [343]

Commission findings

260 Dr. Cleary showed that the bond yield plus risk premium approach is commonly used by Canadian finance professionals. He conceded that "this approach appears to be somewhat 'ad hoc' in nature," but that, nevertheless, it "does provide a useful reasonableness check on CAPM and other estimates, and employs solid intuition." [344]

261 The Commission agrees with Dr. Cleary's view that the bond yield plus risk premium approach does hold a certain appeal for finance professionals because it is simple to use and is based on the same premise as the CAPM; namely, that investors require a higher return for assets with greater risk. [345] However, the Commission is also mindful that this simplicity may not always be advantageous, particularly in the current environment of historically low interest rates. Indeed, as pointed out by Ms. McShane, "the addition of a risk premium at the lower end of the range when the utility bond yields themselves are at the low end of historical levels fails to take account of the inverse relationship between interest rates and risk premiums." [346] The Commission notes by way of comparison that CAPM estimates explicitly take this inverse relationship into account, as set out in Section 5.1.3.

262 Considering that, according to Dr. Cleary, the bond yield plus risk premium test has somewhat of an *ad hoc* nature and provides a "reasonableness check on CAPM" [347] and given the ample evidence on CAPM-based ROE estimates in this proceeding, the Commission will not place significant weight on this test in determining a fair ROE for the utilities.

5.6 The Commission's awarded ROE for 2013, 2014 and 2015

263 The Alberta Utilities requested a generic benchmark ROE of 10.5 per cent for 2013 and 2014, based on the expert evidence of Ms. McShane. Regarding the 2015 ROE, Ms. McShane indicated that because her analysis is based on a normalized long-term government of Canada yield of four per cent, she would recommend the same 10.5 per cent generic benchmark ROE for 2015 as she recommended for 2013 and 2014. The Alberta Utilities endorsed Ms. McShane's approach for 2015. [348] However, the Alberta Utilities submitted that if the Commission were to base the allowed ROE on different long-term Canada bond yields for each year, the 2015 ROE should be higher than the recommended 2014 value. [349]

264 The Alberta Utilities also submitted that "it is critical that the Commission base its generic ROE decision on the results of multiple tests" and urged the Commission "to not rely on the Capital Asset Pricing Model as the 'centerpiece' of its generic ROE decision as it has in previous GCOC decisions." [350] As Ms. McShane testified:

> Each of the tests is based on different premises and brings a different perspective to the fair return on equity. None of the individual tests is, on its own, a sufficient means of ensuring that all three requirements of the fair return standard are met; each of the tests has its own strengths and weaknesses. Individually, each of the tests can be characterized as a relatively inexact instrument; no single test can pinpoint the fair return. Changes to the inputs to individual tests may have different implications depending on the prevailing economic and capital market conditions. These considerations emphasize the importance of reliance on multiple tests. [351] [footnotes omitted]

265 CAPP, in its argument, submitted that Dr. Booth's evidence in this proceeding "shows that no increase in allowed ROE is warranted and if anything the ROE should be reduced." [352] Dr. Booth recommended an ROE of 7.50 per cent for 2013 and 2014. [353] For 2015, Dr. Booth indicated he would be "be quite happy with a fixed rate of return for all three years, exactly the same." [354]

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AUC
Alberta Utilities Commission

2018 Generic Cost of Capital

August 2, 2018

435. Mr. Coyne calculated an estimated total return of 12.64 per cent and 12.74 per cent for the S&P/TSX and S&P 500, respectively.[583]

436. Dr. Cleary was the only expert to use a multi-stage model to estimate the market return. Mr. Hevert critiqued Dr. Cleary's estimates as too conservative, pointing out that sustainable growth is an inferior measure of expected growth.[584]

Commission findings

437. The Commission was presented with ROE estimates determined using both single-stage and multi-stage DCF models.

438. With respect to the single-stage DCF model estimates presented by Dr. Villadsen, Mr. Coyne and Mr. Hevert, the growth rates used by each of these three witnesses in their single-stage DCF models are in excess of the long-term GDP growth estimates they put forward.[585] Consistent with its determinations in prior GCOC decisions, the Commission will not accept, in a single-stage DCF model, the use of long-term or terminal growth rates that exceed estimates of the nominal long-term GDP growth rate for the economy. The Commission recognizes that the utilities are, as Dr. Cleary stated in his evidence, essentially monopolies in mature markets and, because of this, the use of long-term growth in excess of the long-term growth of GDP is unreasonable.[586]

439. With regard to the single-stage DCF model results submitted by Dr. Cleary, the Commission notes that the implied overall average long-term growth rate across his 12 scenarios was 1.89 per cent.[587] The Commission notes that this growth rate is within the Bank of Canada's targeted range of one to three per cent for inflation. If long-term inflation exceeds Dr. Cleary's 1.89 per cent long-term growth rate, this results in negative real growth. The Commission considers that over the long term, investors would not accept the risks of equity ownership if the expected long-term outlook for real growth was at or near negative levels. Consequently, the Commission will not accept the single-stage DCF model results submitted by Dr. Cleary.

440. With regard to the multi-stage DCF ROE estimates submitted by Dr. Cleary, Dr. Villadsen, Mr. Coyne and Mr. Hevert, there was disagreement among the witnesses regarding whether it is acceptable to use growth rates above the nominal long-term GDP growth rate, in the initial stages of a multi-stage DCF model. In the 2016 GCOC decision, the Commission accepted that in some circumstances, the use of growth rates above the nominal long-term GDP growth rate may be reasonable in the initial stages.[588]

441. In this proceeding, Dr. Villadsen contended that there is no reason to believe that any one company cannot grow at a higher rate than the economy in the near term. She noted that Alberta's economy is expected to grow faster than the Canadian GDP in the near future.[589] The Commission agrees with these submissions of Dr. Villadsen, and therefore, it will accept the use

583 Exhibit 22570-X0132, worksheets JMC-3 Canada MRP and JMC-4 US MRP.
584 Exhibit 22570-X0741.01, PDF page 51.
585 Exhibit 22570-X0562.01, Table 16.
586 Exhibit 22570-X0562.01, PDF page 63.
587 Exhibit 22570-X0562.01, Table 13, average of 1.92 per cent and 1.86 per cent.
588 Decision 20622-D01-2016, paragraph 287.
589 Exhibit 22570-X0767.01, A78.

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Determination of the Cost-of-Capital Parameters in 2024 and Beyond

October 9, 2023

> The contradiction in these assumptions is obvious – i.e. if the economic environments are expected to experience high-risk and slow growth conditions, how is it reasonable to assume that corporate earnings and dividends (for the entire stock market of all publicly listed companies) can be expected to grow indefinitely at these abnormally high rates?[166]

153. In the 2018 GCOC decision, with reference to Dr. Cleary's evidence, the Commission recognized that the utilities are essentially monopolies in mature markets and, because of this, the use of long-term growth in excess of the long-term growth of GDP is unreasonable.[167] Indeed, D. Madsen quoted in his evidence from a publication by Dr. Damodaran, who opined that it is questionable whether any firm is able to sustain high growth in the long term as it will eventually stop growing either due to limitations on size or to the effects of competition.[168]

154. On the other hand, the sustainable growth rate Dr. Cleary used to estimate expected dividend growth rates relied on historical seven-year average dividend yields and payout ratios and used accounting data, rather than readily available, market-driven forecasts. The Commission notes that this approach produces growth estimates that are less than actual historical rates of dividend growth[169] and less than inflation, resulting in negative real growth. As a result, the Commission is concerned that Dr. Cleary's sustainable growth rate produces results that understate dividend growth.

155. The Commission will generally continue to consider forecast long-term nominal GDP growth as a proxy for forecast dividend growth. Growth of the utilities will fluctuate over the years but, overall, considering the business profile of the utilities, the Commission does not expect the utilities will consistently achieve growth in dividends greater than the nominal GDP growth rate.

156. In this regard, the Commission finds it reasonable to use in the constant growth DCF model the minimum and mean analyst growth rates submitted in this proceeding; however, maximum EPS growth rates appear to be unreasonably high. Despite its general criticism of using high dividend growth rates, the Commission notes that analyst EPS growth estimates are widely used by the investment community, and concerns relating to analyst EPS optimism bias for large capitalization stocks like those in the comparator group may be overstated, at least relative to estimates for small to mid-cap stocks of which there are not many in the comparator group, in any event.[170] The use of analyst EPS estimates supplied by established data service providers, such as Value Line, Zack's, Yahoo! Finance, SNL Financial, and Thomson First Call minimizes the opportunity for arbitrary adjustments and custom calculations for which there is no broad support among parties to the proceeding.

6.4.3 Multi-stage DCF model

157. The multi-stage DCF model reflects the premise that investors value an investment according to the present value of its expected cash flows over time.[171] It is an extension of the constant growth DCF model, but the multi-stage DCF approach does not assume a single,

[166] Exhibit 27084-X0759, Dr. Cleary rebuttal evidence (redacted), PDF page 3.
[167] Decision 22570-D01-2018, paragraph 438.
[168] Exhibit 27084-X0292, D. Madsen evidence, PDF pages 34-35.
[169] Exhibit 27084-X0304, Madsen evidence, Tab DCF, column "Growth forecast past 5 years (per annum)."
[170] Transcript, Volume 3, pages 704-722.
[171] Exhibit 27084-X0390, Concentric evidence, PDF page 53.

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161. D. Madsen also calculated the multi-stage DCF using the approach used by the U.S. Federal Energy Regulatory Commission (FERC), applying it to several scenarios.[179] Using the FERC approach led to similar growth rates. Dr. Cleary took a slightly different approach and used a variation of the constant growth DCF called the H-Model. The approach assumes that growth in dividends moves in a linear manner from a short-term growth rate toward a long-term growth rate over a specified period of time, defined as the "half life."

162. D. Madsen's multi-stage DCF calculations included using current and one-year forecast EPS growth rates as a proxy for a five-year forecast EPS growth rate or a one-year EPS growth estimate in year one and the five-year EPS estimate in years two to five.[180] D. Madsen also used the FERC two-step DCF approach. He made adjustments to the FERC approach, including the weights used for short- and long-term growth, and used a simple average of the short-term and long-term growth estimates to adjust the dividend. These adjustments were criticized by Dr. Villadsen and D. D'Ascendis.[181]

163. The multi-stage DCF approach used by Dr. Villadsen[182] models the first five years of dividends at a growth rate specific to the company she is estimating, then tapered the growth down towards that of the economy over the next five years. For year 10 onwards, Dr. Villadsen used the GDP growth rate as the perpetual growth rate for dividends.

164. Regarding the results of Dr. Cleary's H-Model DCF approach, the Commission is persuaded by the concerns expressed by experts for the utilities who raised a number of empirical and qualitative issues with Dr. Cleary's approach. These included the use of sustainable growth rates that are less than forecast inflation,[183] resulting in negative real utility growth, sustainable growth rates that are less than historical actuals,[184] and the need to consider growth arising from both internally generated funds and from issuances of equity.[185]

6.4.4 Other risk premium models

165. In addition to relying on CAPM and DCF models, some parties used the following risk premium models to help inform their fair ROE estimates: (i) Concentric and Dr. Villadsen used the government bond yield risk premium model; (ii) Dr. Cleary and D. D'Ascendis relied on the utility bond risk yield premium model; and (iii) D. D'Ascendis used the predictive risk premium model. The Commission determines that it will not rely on any of these models for the purposes of the present decision.

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179 Exhibit 27084-X0292, Madsen evidence, PDF pages 42-44. Exhibit 27084-X0304, Madsen evidence.

180 Exhibit 27084-X0304, Madsen evidence, Sheets DCF and Multi DCF Alt. FERC Scenario 1: nominal estimated GDP of 3.77% is used for both the short-term and long-term growth rate; FERC Scenario 2: short-term growth rate is the average of the current year forecast and next year's growth rate and nominal estimated GDP of 3.77% is used as the long-term growth rate; FERC Scenario 3: short-term growth rate is equal to analyst five-year EPS growth rates and nominal estimated GDP of 3.77% is used as the long-term growth rate; and FERC Scenario 4: the average the short-term growth rate in scenarios 1 to 3 is used as the short-term growth rate and the long-term growth rate is nominal estimated GDP of 3.77%.

181 Exhibit 27084-X0761, Villadsen evidence, PDF pages 26-27, Exhibit 27084-X0750, D'Ascendis evidence, PDF pages 32-36.

182 Exhibit 27084-X0471, Villadsen evidence, PDF pages 9-10.

183 Exhibit 27084-X0750, D'Ascendis evidence, PDF page 29.

184 Exhibit 27084-X0743, Concentric evidence, PDF page 41.

185 Exhibit 27084-X0761.02, Villadsen evidence, PDF page 61.

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NEW
REGULATORY
FINANCE

Roger A. Morin, PhD

2006
PUBLIC UTILITIES REPORTS, INC.
Vienna, Virginia

expectations. The sheer volume of earnings forecasts available from the investment community relative to the scarcity of dividend forecasts attests to their importance. The fact that these investment information providers focus on growth in earnings rather than growth in dividends indicates that the investment community regards earnings growth as a superior indicator of future long-term growth. Surveys of analytical techniques actually used by analysts reveal the dominance of earnings and conclude that earnings are considered far more important than dividends. Finally, Value Line's principal investment rating assigned to individual stocks, Timeliness Rank, is based primarily on earnings, accounting for 65% of the ranking.

Historical Growth Rates Versus Analysts' Forecasts

Obviously, historical growth rates as well as analysts' forecasts provide relevant information to the investor with regard to growth expectations. Each proxy for expected growth brings information to the judgment process from a different light. Neither proxy is without blemish; each has advantages and shortcomings. Historical growth rates are available and easily verifiable, but may no longer be applicable if structural shifts have occurred. Analysts' growth forecasts may be more relevant since they encompass both history and current changes, but are nevertheless imperfect proxies.

9.5 Growth Estimates: Sustainable Growth Method

The third method of estimating the growth component in the DCF model, alternately referred to as the ''sustainable growth'' or ''retention ratio'' method, can be used by investment analysts to predict future growth in earnings and dividends. In this method, the fraction of earnings expected to be retained by the company, b, is multiplied by the expected return on book equity, r, to produce the growth forecast. That is,

$$g = b \times r$$

The conceptual premise of the method, enunciated in Chapter 8, Section 8.4, is that future growth in dividends for existing equity can only occur if a portion of the overall return to investors is reinvested into the firm instead of being distributed as dividends.

For example, if a company earns 12% on equity, and pays all the earnings out in dividends, the retention factor, b, is zero and earnings per share will not grow for the simple reason that there are no increments to the asset base (rate base). Conversely, if the company retains all its earnings and pays no dividends, it would grow at an annual rate of 12%. Or again, if the company earns 12% on equity and pays out 60% of the earnings in dividends, the

retention factor is 40%, and earnings growth will be 40% × 12% = 4.8% per year.

In implementing the method, both 'b' and 'r' should be the rate that the market expects to prevail in the future. If no explicit forecast of 'b' is available, it is reasonable to assume that the utility's future retention ratio will, on average, remain unchanged from its present level. Or, it can be estimated by taking a weighted average of past retention ratios as a proxy for the future on the grounds that utilities' target retention ratios are usually, although not always, stable.[14]

Both historical and forecast values of 'r' can be used to estimate g, although forecast values are superior. The use of historical realized book returns on equity rather than the expected return on equity is questionable since reliance on achieved results involves circular reasoning. Realized returns are the results of the regulatory process itself, and are also subject to tests of fairness and reasonableness. As a gauge of the expected return on book equity, either direct published analysts' forecasts of the long-run expected return on equity, or authorized rates of return in recent regulatory cases can be used as a guide. As a floor estimate, it seems reasonable for investors to expect allowed equity returns by state regulatory commissions to be in excess of the current cost of debt to the utility in question.

Another way of obtaining the expected 'r' is to examine its fundamental determinants. Since earnings per share, E, can be stated as dividends per share, D, divided by the payout ratio (1 − b), the earnings per share capitalized by investors can be inferred by dividing the current dividend by an expected payout ratio. Provided that a utility company follows a fairly stable dividend policy, the possibility of error is less when estimating the payout than when estimating the expected return on equity or the expected growth rate. Using this approach, and denoting book value per share by B, the expected return on equity is:

$$r = E/B = (D/(1 - b)) / B \qquad (9\text{-}9)$$

Estimates of the expected payout ratio can be inferred from historical 10-year average payout ratio data for utilities, assuming a stable dividend policy has been pursued. Since individual averages frequently tend to regress toward the grand mean, the historical payout ratio needs to be adjusted for this tendency, using statistical techniques for predicting future values based on this tendency of individual values to regress toward the grand mean over time.

An application of the sustainable growth method is shown in example 9-1.

[14] Statistically superior predictions of future averages are made by weighting individual past averages with the grand mean, with the variance within the individual averages and the variance across individual averages serving as weights.

EXAMPLE 9-1

Southeastern Electric's sustainable growth rate is required for upcoming rate case testimony. As a gauge of the expected return on equity, authorized rates of return in recent decisions for eastern U.S. electric utilities as reported by Value Line for 2005 and 2006 averaged 11%, with a standard deviation of 1%. In other words, the majority of utilities were authorized to earn 11%, with the allowed return on equity ranging from 10% to 12%. As a gauge of the expected retention ratio, the average 2006 payout ratio of 34 eastern electric utilities as compiled by Value Line was 60%, which indicates an average retention ratio of 40%, with a standard deviation of 5%. This was consistent with the long-run target retention ratio indicated by the management of Southeastern Electric. It is therefore reasonable to postulate that investors expect a retention ratio ranging from 35% to 45% for the company with a likely value of 40%. In Table 9-4 below, expected retention ratios of 35% to 45% and assumed returns on equity from 10% to 12% are multiplied to produce sustainable growth rates ranging from 3.8% to 5.4% with a likely value of 4.6%.

TABLE 9-4
SUSTAINABLE GROWTH METHOD ILLUSTRATION

Expected Retention Ratio (b)	Expected Return on Book Equity (r)		
	10%	11%	12%
35%	3.5%	3.9%	4.2%
40%	4.0%	4.4%	4.8%
45%	4.5%	5.0%	5.4%

It should be pointed out that published forecasts of the expected return on equity by analysts such as Value Line are sometimes based on end-of-period book equity rather than on average book equity. The following formula[15]

[15] The return on year-end common equity, r, is defined as $r = E/B_t$, where E is earnings per share, and B_t is the year-end book value per share. The return on average common equity, r_a, is defined as: $r_a = E/B_a$ where B_a = average book value per share. The latter is by definition: $B_a = (B_t + B_{t-1})/2$ where B_t is the year-end book equity per share and B_{t-1} is the beginning-of-year book equity per share. Dividing r by r_a and substituting:

$$\frac{r}{r_a} = \frac{E/B_t}{E/B_a} = \frac{B_a}{B_t} + \frac{B_t + B_{t-1}}{2B_t}$$

Solving for r_a, a formula for translating the return on year-end equity into the return on average equity is obtained, using reported beginning-of-the year and end-of-year common equity figures:

$$r_a = r\,\frac{2B_t}{B_t + B_{t-1}}$$

adjusts the reported end-of-year values so that they are based on average common equity, which is the common regulatory practice:

$$r_a = r_t \frac{2B_t}{B_t + B_{t-1}} \tag{9-10}$$

The sustainable growth method can also be extended to include external financing. From Chapter 8, the expanded growth estimate is given by:

$$g = br + sv$$

where b and r are defined as previously, s is the expected percent growth in number of shares to finance investment, and v is the profitability of the equity investment. The variable s measures the long-run expected stock financing that the utility will undertake. If the utility's investments are growing at a stable rate and if the earnings retention rate is also stable, then s will grow at a stable rate. The variable s can be estimated by taking a weighted average of past percentage increases in the number of shares. This measurement is difficult, however, owing to the sporadic and episodic nature of stock financing, and smoothing techniques must be employed. The variable v is the profitability of the equity investment and can be measured as the difference of market price and book value per share divided by the latter, as discussed in Chapter 8.

There are three problems in the practical application of the sustainable growth method. The first is that it may be even more difficult to estimate what b, r, s, and v investors have in mind than it is to estimate what g they envisage. It would appear far more economical and expeditious to use available growth forecasts and obtain g directly instead of relying on four individual forecasts of the determinants of such growth. It seems only logical that the measurement and forecasting errors inherent in using four different variables to predict growth far exceed the forecasting error inherent in a direct forecast of growth itself.

Second, there is a potential element of circularity in estimating g by a forecast of b and ROE for the utility being regulated, since ROE is determined in large part by regulation. To estimate what ROE resides in the minds of investors is equivalent to estimating the market's assessment of the outcome of regulatory hearings. Expected ROE is exactly what regulatory commissions set in determining an allowed rate of return. In other words, the method requires an estimate of return on equity before it can even be implemented. Common sense would dictate the inconsistency of a return on equity recom-

mendation that is different than the expected ROE that the method assumes the utility will earn forever. For example, using an expected return on equity of 11% to determine the growth rate and using the growth rate to recommend a return on equity of 9% is inconsistent. It is not reasonable to assume that this regulated utility company is expected to earn 11% forever, but recommend a 9% return on equity. The only way this utility can earn 11% is that rates be set by the regulator so that the utility will in fact earn 11%. One is assuming, in effect, that the company will earn a return rate exceeding the recommended cost of equity forever, but then one is recommending that a different rate be granted by the regulator. In essence, using an ROE in the sustainable growth formula that differs from the final estimated cost of equity is asking the regulator to adopt two different returns.

The circularity problem is somewhat dampened by the self-correcting nature of the DCF model. If a high equity return is granted, the stock price will increase in response to the unanticipated favorable return allowance, lowering the dividend yield component of market return in compensation for the high g induced by the high allowed return. At the next regulatory hearing, more conservative forecasts of r would prevail. The impact on the dual components of the DCF formula, yield and growth, are at least partially offsetting.

Third, the empirical finance literature discussed earlier demonstrates that the sustainable growth method of determining growth is not as significantly correlated to measures of value, such as stock price and price/earnings ratios, as other historical growth measures or analysts' growth forecasts. Other proxies for growth, such as historical growth rates and analysts' growth forecasts, outperform retention growth estimates. See for example Timme and Eiseman (1989).

In summary, there are three proxies for the expected growth component of the DCF model: historical growth rates, analysts' forecasts, and the sustainable growth method. Criteria in choosing among the three proxies should include ease of use, ease of understanding, theoretical and mathematical correctness, and empirical validation. The latter two are crucial. The method should be logically valid and consistent, and should possess an adequate track record in predicting and explaining security value. The retention growth method is the weakest of the three proxies on both conceptual and empirical grounds. The research in this area has shown that the first two growth proxies do a better job of explaining variations in market valuation (M/B and P/E ratios) and are more highly correlated to measures of value than is the retention growth proxy.

DCF Growth Rate Check

As a reasonableness check on the DCF growth rate, the growth rate in dividends can be verified using the following relationship:[16]

Dividend Growth = Risk-free Return + Risk Premium − Dividend Yield

For example, let us say that the yield on Treasury bonds as a proxy for the risk-free return is 5%, the utility risk premium is 5.5% derived from a Capital Asset Pricing Model (CAPM) analysis discussed in earlier chapters, and the expected dividend yield for the utility industry is 4.5%. Substituting these values in the above relationship, we obtain a dividend growth expectation of 6.0% as follows:

Dividend Growth = 5.0% + 5.5% − 4.5% = 6.0%

9.6 Growth in the Non-Constant DCF Model

Although the constant growth DCF model does have a long history, analysts, practitioners, and academics have come to recognize that it is not applicable in many situations. A multiple-stage DCF model that better mirrors the pattern of future dividend growth is preferable. There is a growing consensus and ample empirical support that the best place to start is with security analysts' forecasts, that is, assume that dividend policy is relatively constant and use analyst forecasts of earnings growth as a proxy for dividend forecasts. The problem is that from the standpoint of the DCF model that extends into perpetuity, analysts' horizons are too short, typically five years. It is often unrealistic for such growth to continue into perpetuity. A transition must occur between the first stage of growth forecast by analysts for the first five years and the company's long-term sustainable growth rate. Accordingly, multiple-stage DCF models of this transition are available and were described in Chapter 8. It is useful to remember that eventually all company growth rates, especially utility services growth rates, converge to a level consistent with the growth rate of the aggregate economy.

A reasonable alternative to the constant growth DCF model is to use a multiple-stage DCF model that more appropriately captures the path of future dividend

[16] Equating the expected return from the standard DCF equation and the required return from the CAPM equation:

$$K = D_1/P + g = R_f + \text{Risk Premium}$$
$$K = D_1/P + g = R_f + \beta(R_m - R_f) \text{ from the CAPM}$$

Solving for g:

$$g = R_f + \beta(R_m - R_f) - D_1/P$$

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