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June 14, 2022

Commercial Energy Consumers Association of British Columbia
c/o Owen Bird Law Corporation
P.O. Box 49130, Three Bentall Centre
2900 – 595 Burrard Street
Vancouver, BC
V7X 1J5

Attention: Mr. Christopher P. Weafer

Dear Mr. Weafer:

Re: British Columbia Utilities Commission (BCUC) – 2022 Generic Cost of Capital Proceeding – Project No. 1599176

FortisBC Energy Inc. and FortisBC Inc. (collectively FortisBC) Response to the Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 2 on FortisBC Evidence

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On January 18, 2021, BCUC initiated the proceeding referenced above. In accordance with the further regulatory timetable established in BCUC Order G-106-22 for the review of FortisBC's Evidence, FortisBC respectfully submits the attached response to CEC IR No. 2.

For convenience and efficiency, FortisBC has occasionally provided an internet address for referenced reports instead of attaching lengthy documents to its IR responses. FortisBC intends for the referenced documents to form part of its IR responses and the evidentiary record in this proceeding.

If further information is required, please contact the undersigned.

Sincerely,

on behalf of FORTISBC

Original signed:

Diane Roy

Attachments

cc (email only): Commission Secretary
Registered Parties

61. Reference: Exhibit B1-11, CEC 1.1.2 and 1.24.1 and Exhibit B1-9, BCUC 1.6.4

1.2 Please confirm that at times capital markets can freeze up or become very strained or disrupted, and attraction of capital may be difficult or impossible at times for the FBCU and/or its comparable corporate investment entities.

Response:

That is correct and especially true for BBB rated entities as compared to A rated entities.

Please also refer to the response to BCUC IR1 6.4.

Response:

Concentric provides the following response:

Credit metrics for each company in the Canadian and U.S. proxy groups are provided in Exhibit JMC-FEI-10. FEI is not rated by S&P. FEI has a Moody's long-term issuer rating of A3, as indicated in Mr. Coyne's report.

The inclination to invest in higher rated companies becomes especially apparent during financial crises when markets are extremely volatile. For example, when the bond markets shut for several weeks post Lehman Brothers collapse in September 2008, even the strongest investment grade companies could not issue bonds, let alone BBBs and below. This can be seen looking at October 2008 in the graph below when there were no debt issuances in the Canadian market by either A or BBB rated companies. When the markets did reopen, they did so gradually, opening first to issuers at the top end of the rating spectrum and then eventually moving down towards the bottom. This can also be seen in the graph below, as for the rest of 2008 only A or higher rated companies were able to access the debt capital market. Overall, for the majority of 2008 (8 out of 12 months) and the first several months of 2009, BBB or lower rated issuers were not able to issue bonds in the Canadian marketplace.

61.1 Please describe FortisBC's view as to how the lending/borrowing markets are at this time, and provide evidence to support its position.

Response:

FortisBC currently finds itself in a rising interest rate environment due to high inflation, Russia's invasion in Ukraine and removal of monetary policy actions that were prevalent during the COVID-19 pandemic era of 2020-2021. Various headwinds have put pressure on credit spreads through the course of 2022:

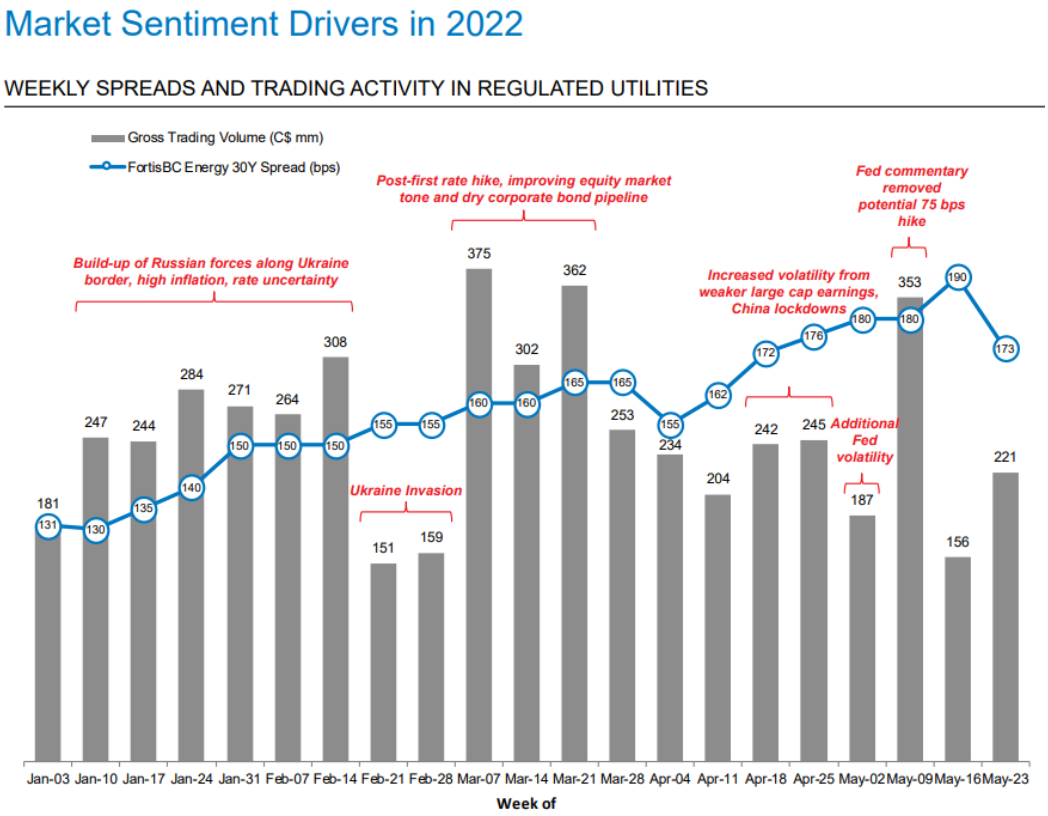
- Removal of monetary stimulus (rate hikes and bond tapering) driving significant increases in interest rates;
- Building inflation (and recession) concerns;
- Elevated geopolitical risks including "black swan" risk events such as Russia's ongoing war in Ukraine;
- Investor cash outflows from fixed income given year-to-date returns; and

- Decreased liquidity.

These risk variables show no signs of abating, which has been driving bond issuers to expedite and de-risk financing requirements. Taking advantage of market windows during short-term periods of stabilization has become critical.

While debt capital markets continue to remain accessible, investors require larger credit spread premiums, which combined with increased Government of Canada bond yields results in a significantly higher interest rate for companies issuing debt. For comparison purposes, FEI's last 30-year debt issuance was in July 2020 at 2.54 percent. The current indicative yield for FEI's 30-year bond is 4.80 percent.[1] In addition, the Bank of Canada announced another rate hike on June 1, 2022 raising the benchmark interest rate to 1.5 percent and signaling that more rate hikes will be announced in 2022. The benchmark interest rate was primarily raised in response to high inflation which in April 2022 reached 6.8 percent compared to the Bank of Canada's target of 2 percent.

The market volatility is expected to persist given many ongoing elevated risk variables as discussed above. An overview of market sentiment drivers in 2022 is provided below:



Source: BMO

[1] Data provided by TD for the week of May 6, 2022.

61.2 Would FEI, as a Moody's-ranked A3 company, be expected to experience difficulty in accessing capital at this time? Please explain.

Response:

FEI would be able to access capital at this time; however, current market conditions are highly volatile as described in the response to CEC IR2 61.1. Please also refer to the response to BCUC IR1 8.1 that discuses ESG implications on fossil fuel companies and increasingly negative investor sentiment towards natural gas distribution utilities.

61.3 Please provide the frequency with which the lending/borrowing markets have become inaccessible in the past 10 to 20 years, and please provide the duration of the inaccessibility of those markets by year, if available.

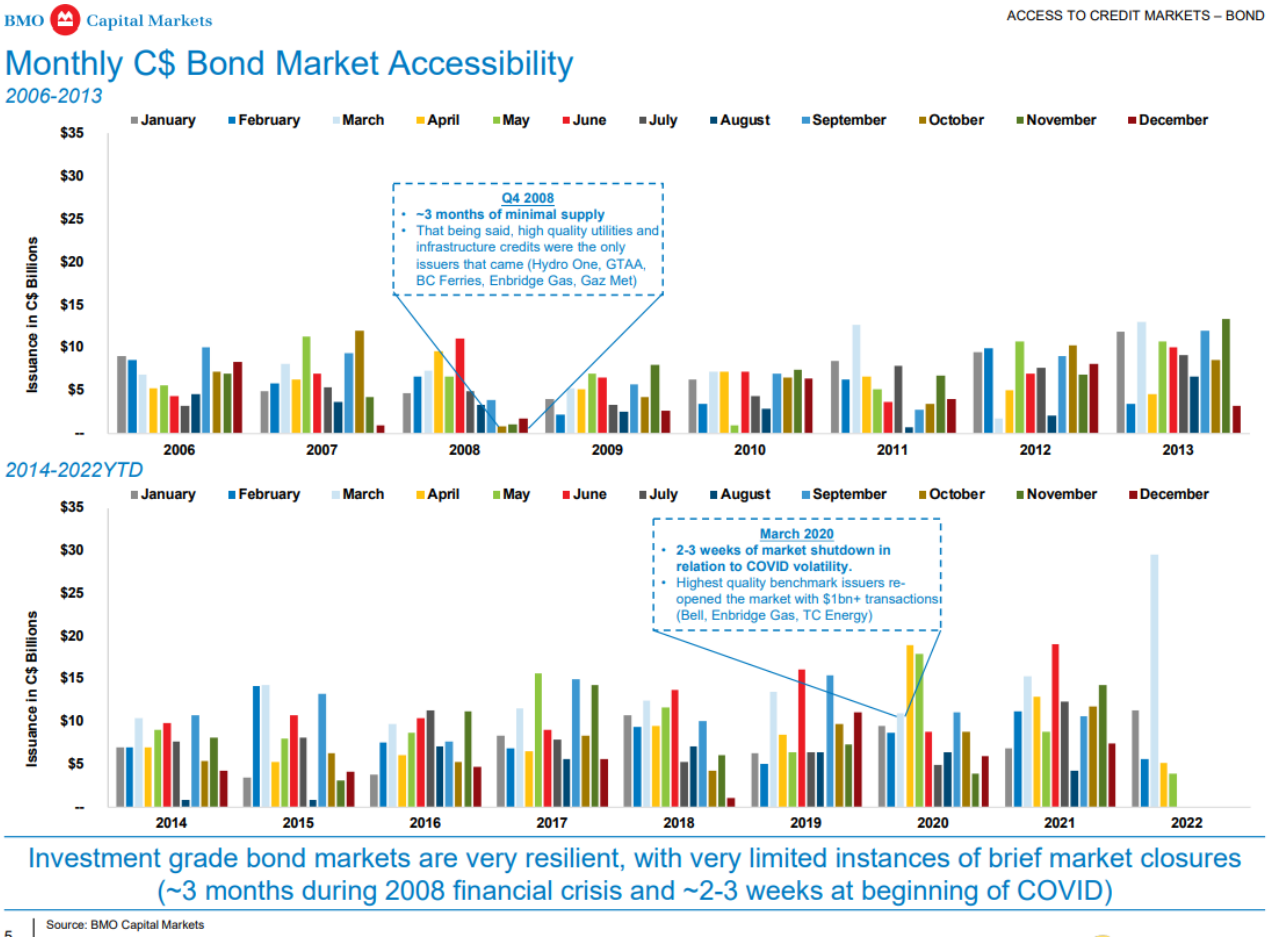
Response:

The below graph shows debt capital market accessibility from 2006 to now with commentary around access to bond markets during the 2008 financial crisis as well as the COVID-19 pandemic. However, it is important to clarify that when FortisBC refers to "access to debt capital markets", it not only refers to times when debt capital markets are accessible to issuers but also when debt can be issued at reasonable terms and conditions. For example and as discussed in the response to CEC IR2 61.1, while 2022 debt capital markets remain accessible, there is significant volatility as a result of a number of risk events such as removal of monetary stimulus packages driving significant increases in interest rates, growing inflation and recession concerns as well as elevated geopolitical risks. At such times, while debt capital markets remain accessible, they are potentially accessible at a high cost or on unfavourable terms and taking advantage of short market windows of relative stability becomes critical.

In addition, an issuer's credit ratings become especially important during times of volatility as the credit rating is the primary factor in determining a bond's coupon rate when issuing debt. For comparison purposes, FEI's (A-rated utility) last 30-year debt issuance in July 2020 was at 2.54 percent vs. current indicative yield for FEI's 30-year bond of 4.80 percent.[2] FBC, which is essentially a BBB rated issuer, issued a 30-year bond in March 2022 at 4.16 percent vs. current

[2] Data provided by TD for the week of May 6, 2022.

indicative yield of 5.0 percent.[3] As discussed in the response to CEC IR2 61.1, the risk variables impacting debt capital markets currently show no signs of abating.



Source: BMO

61.4 Please confirm that all other corporations with a similar rating to FortisBC would experience the same or similar issues with the lending/borrowing markets.

Response:

Confirmed for the 2008 financial crisis and other financial disruptions in the past. However, FortisBC anticipates that for financial disruptions in the future, in addition to the credit rating, ESG factors may also play a role, where investors may choose to invest in a company that is more sustainable over a fossil fuel-based company despite both companies having the same credit rating. That is because, as discussed in the response to BCUC IR1 8.1, a larger proportion of

[3] Ibid.

1 investors now have established ESG mandates, which was not the case during the 2008 financial
2 crisis or other financial disruptions in the past.

3

62. Reference: Exhibit B1-11, CEC 1.2.1 and 1.17.1

2.1 Please confirm that regulatory entity compliance with government legislation, including environmental legislation, is primarily a function of the management of the regulated entity and that the costs of doing so are regularly seen by regulators to be in the public interest and that the public interest in this sense is seen by regulators as a contribution to the benefit of the regulated entity's customers if prudently incurred.

Response:

FortisBC agrees that utility compliance with legislation, including environmental legislation, is primarily a function of the management of the utility, that the costs of doing so are regularly scrutinized by the regulator and that reasonably incurred costs are generally recovered in rates. However, as explained in FEI's business risk evidence, the BCUC and other regulators have oversight over many matters that are fundamental to the success of the utility business. Regulatory oversight involves the exercise of discretion, giving rise to regulatory risk. Decisions of a regulator can, for instance, adversely affect short-term earnings. They can also hinder the utility's ability to implement initiatives that align its operations with government policy and regulation, particularly with regards to climate policy related legislation and regulations.

Even if the regulator approves the costs and associated rates, the risk remains that the utility may not be able to recover all of its invested capital and this risk should be considered in determining a Fair Return.

Please also refer to the response to CEC IR1 17.1.

17.1 Please confirm that when FBC complies with environmental regulation changes in its service area, that it is in fact reducing its business risk from public interest concerns and is in fact being positioned as a credible partner in protecting the public interest values of the community.

Response:

This would be accurate, other things being equal and assuming FBC is always able to comply with all environmental obligations. However, with the above-noted trend to impose more restrictions and limitations on activities that may impact the environment, FBC faces an increased risk that it will not be able to comply, whether due to strict prohibitions, lack of resources, or inability to meet compliance deadlines.

62.1 Is it FortisBC's position that the 'discretion' that gives rise to regulatory risk and potentially results in adversely affected short-term earnings is unfair?

Response:

No. Regulatory discretion is the key source of regulatory risk. As long as the regulator follows procedural fairness principles and applies its discretion in an unbiased and fair manner, the existence of risk does not make it unfair. The Fair Return Standard requires the regulator to compensate the utility's investors for taking on this risk.

62.2 Is it logical to assume that the exercise of discretion resulting in adversely affected short-term earnings was appropriate and generated as a result of management actions? Please explain.

Response:

No, such a presumption would not be accurate. As discussed in the response to CEC IR1 2.1, regulatory discretion gives rise to regulatory risk. As an example, contrary to the position of the utility's management, a regulator may discontinue an existing deferral account, which may then adversely impact short-term earnings. In this example, assuming the regulator has followed a fair process and acted within the bounds of its legal discretion, the decision would be legally appropriate but not necessarily caused by the actions of the utility's management.

62.3 Would FortisBC have the opportunity to argue the case for having appropriately-incurred costs and for being able to recover those from ratepayers? Please explain.

Response:

Yes. FEI and FBC both have the opportunity to make their case to recover their prudently incurred costs. Nevertheless, the opportunity to present a case does not guarantee an outcome. As discussed in both FEI's and FBC's business risk appendices (Appendix A and B, respectively), regulatory discretion in approving or denying a utility's application is the main cause of regulatory uncertainty which in itself gives rise to the risk that the allowed return does not accord with the Fair Return Standard, that rates are set at a level that does not provide the utility with an opportunity to earn its fair return, or that necessary investments are not approved.

63. Reference: Exhibit B1-11, CEC 1.2.2

> 2.2 Please confirm that investment of capital in the securities of other comparable corporate investment opportunities would presume that these entities also have obligations to comply with government legislation and operate with regard to environmental and other social concerns in the public interest for the benefits of its customers.
>
> **Response:**
>
> Confirmed. However, the impact of legislation varies in different jurisdictions. For instance, as discussed in Concentric's evidence (Appendix C, Figure 40) many jurisdictions in the U.S. have passed legislation to prohibit local governments from (a) banning the use of gas in buildings and (b) implementing electrification codes. In BC, by contrast, the provincial and local governments are pursuing policies to restrict or even effectively ban the use of natural gas in the building sector. These differences in policy should be considered when using proxy groups to determine the appropriate ROE and capital structure.

63.1 Please provide evidence and examples from within Canada.

Response:

FEI's response in the preamble above explains that government policy and legislation with regard to the Energy Transition varies across different jurisdictions. For instance, while some US states, like California or New York, pursue policies to restrict or effectively ban the use of natural gas others promote its use and prohibit anti-gas legislation at local levels.

Similarly, in Canada the provincial and local governments in jurisdictions such as BC and Quebec are implementing policies to increase the cost of natural gas appliances and consumption of natural gas for consumers or effectively ban installation of gas-fired appliances[4] while governments in other jurisdictions, such as Alberta or Manitoba, are pursuing or implementing policies and legislation to reduce the impact of high natural gas prices on households through tax credits or rebates[5],[6]. However, FEI is not aware of any provincial government in Canada that has passed legislation to prohibit anti-gas regulations at local levels similar to those in several U.S. states.

More specifically for BC, the BC Building Electrification Roadmap[7] released in March 2021 outlined an extensive series of recommendations aimed at electrifying energy end-uses in buildings and decreasing the use of gas-based solutions. The report refers to building electrification as follows: "*…the replacement of fossil fuel-based building operating systems, (such*

[4] https://www.cbc.ca/news/science/bans-fossil-fuel-heating-homes-1.6327113
[5] https://www.alberta.ca/enabling-energy-rebates.aspx
[6] https://news.gov.mb.ca/news/index.html?item=50457
[7] https://www.zebx.org/wp-content/uploads/2021/04/BC-Building-Electrification-Road-Map-Final-Apr2021.pdf.

as space heating, domestic hot water, and cooking) with low carbon electric powered systems."[8] The purpose of the report was to achieve the following vision, "*By 2030, nearly all new and most replacement space heating and domestic hot water systems in BC's homes and buildings will be high-efficiency electric, in pursuit of a province-wide shift to low-carbon buildings.*"[9]

Supporting this vision was the proposal of 5 core strategies to implement the electrification of buildings including:

1. Create Market Demand: establishing policies for early and sustained market demand for high-efficiency electric building and communicating that the government is limiting GHG emissions in buildings.

2. Improve Cost Effectiveness: further action needed to level the playing field between electricity and gas by increasing the price of fossil gas through actions such as an increased carbon tax on any gas used in homes.

3. Address Systemic Barriers: support the adoption of electrification options over gas via different methods such as preferable access to low-cost capital, reducing legal barriers to electrification, direct support to landlords and more.

4. Expand Industry Capacity: proposed the significant development of more electrification training in schools and certification programs in order to solve for the low supply of labour in the field and support building developer capacity.

5. Increase Available Technologies: proposed speeding up timelines for the certification of new technologies in buildings and supporting low global warming refrigerants (mainly used in heat pump technology).

The three funding partners of this roadmap were the BC provincial government, BC Hydro and the City of Vancouver. These three organizations were also on the Steering Committee along with the City of Richmond and Metro Vancouver. Since its release, the report has served as the blueprint for building electrification and its recommendations have been systematically implemented according to the timeline provided.[10]

Building on this example, the City of Vancouver Council, on May 17, 2022 council meeting, approved or recommended several measures to restrain the use of natural gas and/or renewable gas in the building sector in favour of electrification. Policy updates voted through Council included a focus on limiting or eliminating the use of gas in new buildings, existing detached homes, as well as existing large commercial and multi-family buildings. Specific bylaws that were voted during the recent meeting include the following recommendations.[11]

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8 IBID. p. 4.
9 IBID p. 6.
10 IBID. Section 5, Figure 10, p. 79.
11 https://council.vancouver.ca/20220517/documents/regu20220517min.pdf.

1. Bylaw and Policy Updates Applicable to New Buildings:

- Staff directed to explore options for removal of gas using appliances in new buildings such as gas stoves, fireplaces or any purpose gas would be needed in new buildings, both single family dwelling and larger multi-family buildings. This recommendation was passed unanimously. This effectively sets forth a strategy of banning gas demand to new households.

2. Bylaw Updates Applicable to Existing Detached Homes:

- Staff should prioritize electrification over renewable gas whenever possible in all new and existing buildings. All council members voted in favour except one.

- Staff should explore electrification of domestic hot water by changing the bylaw around domestic hot water replacements, meaning replacements must be electric as is the case in new buildings. This recommendation passed unanimously.

3. Annual Carbon Pollution Limits for Existing Large Commercial and Multi-family Buildings:

- Council prioritize electrification over renewable gas wherever possible in the Regulatory Roadmap and associated work, potentially hindering future discussions or research into how gas as an energy source can be decarbonized. All of council voted in favour except one.

- Adopt an interim Heat Energy Limit for 2032 as part of the regulatory Roadmap for the City. This would essentially put a cap on heat energy that could be supplied which could halt gas using equipment. All of Council voted in favour expect for two councillors.

63.2 Please confirm that the BC government has been recognizing RNG as an appropriate basis for not applying carbon taxes to this product.

Response:

The BC government only provides limited relief from carbon taxes. The BC Carbon Tax Act generally relieves tax on the sale of RNG to consumers. However, it does not provide relief if FortisBC utilizes RNG in its operations (i.e., for its own-use).

FortisBC is currently in consultation with the BC government to provide carbon tax relief with respect to its own-use. FortisBC is also in consultation with the BC government to update the BC Carbon Tax Act to contemplate and provide relief for all forms of renewable gas where relevant.

63.3 Please confirm that electrification of boilers in buildings is a significantly more expensive total cost (excluding subsidies) solution than RNG and please provide the evidence that FEI has with respect to this issue.

Response:

FEI's expectation is that, in general and absent any consideration of subsidies, a natural gas boiler on conventional gas would likely have the least lifetime costs (note gas boilers are found in both residential and commercial applications, whereas electric boilers are less common in residential applications), followed by a natural gas boiler on RNG. However, the relative cost in specific instances will be affected by factors such as building design and configuration, nature of the project (new construction or a retrofit), future RNG price (including whether the customer pays the full RNG price or similar to FEI's current voluntary program a portion of actual supply cost), efficiency assumptions, equipment cost estimates and the approach to computing the electricity bill (for instance inclusion or exclusion of the basic charge).

As noted in the IR response provided in the preamble, in many municipal jurisdictions the restrictions on gas equipment as well as the additional incentives and tax breaks provided for electric equipment make the cost of gas equipment a moot point. Customers do not have the option to use gas equipment and are therefore price takers for electric equipment and service.

63.4 Please discuss and provide quantification with respect to the cost-effectiveness of heat pumps in meeting peak heating requirements versus RNG types of solutions through the FEI natural gas delivery system.

Response:

As noted in response to BCUC IR1 13.7 of the RG Application, FEI would need to lower its proposed Renewable Gas offering (rate) for Residential Connections in order to equal the operating cost of an electric heat pump on an annual basis (both peak and non peak), meaning that RNG in conventional gas equipment is more costly than electricity using a heat pump today due to the efficiencies of the electric heat pump. As such, from a customer perspective, after the sunk cost of the equipment, heat pumps are currently seen as a viable solution to meeting the heating requirements of customers. This is echoed in recent bylaw and policy adoption by the City of Vancouver, in the May 17, 2022 council meeting where additional restrictions were placed on gas equipment and policies adopted encouraging the use of heat pumps.

64. Reference: Exhibit B1-11, CEC 1.6.1

6.1 Please confirm that FEI has seen its sales and transportation volumes grow by 33% and its rate base has grown by 47.7% over the period between 2015 and 2022, or explain where this is provided in the evidence.

Response:

Confirmed. However, FortisBC notes as indicated by Footnotes 7 and 8 of Appendix A, the numbers shown for 2015 and 2022 in Table A2-1 are from FEI's 2015 and 2022 Annual Reviews, as such they are forecasts for 2015 and 2022, respectively. Based on the actual amounts for 2015 as shown in the response to BCUC IR1 11.1, the sales and transportation volumes increased by approximately 26 percent while FEI's rate base increased by approximately 48 percent.

The growth in FEI's rate base is higher than the growth in volumes, as a large portion of FEI's growth in rate base has been related to sustainment capital for the purpose of maintaining safe and reliable services through FEI's natural gas system, and therefore, not directly related to FEI's growth in volume or customers. Given the fact that FEI's growth in rate base is largely related to sustainment and reliability of existing assets and that rate base is growing faster than FEI's volumes, it is resulting in higher rates for FEI's customers and further reinforces the increased risks in FEI's business profile as well as the demand/market risk of FEI as discussed in Sections 2 and 7, respectively, in Appendix A of FEI's evidence. Please also refer to the response to BCUC IR1 11.4 for further discussion of FEI's growth in rate base which includes sustainment capital, growth capital, and capital in response to BC Government Policy, as well as the relationship between growth in rate base and growth in volumes/customers.

64.1 Does FortisBC expect to see reductions in its sales and customers over the next five years, or does FortisBC expect growth to continue for the foreseeable future? Please explain and provide quantification.

Response:

Please refer to Figures 1 and 2 below for the forecast sales (demand) and customers between 2023 and 2027 from FEI's 2022 Long Term Gas Resource Plan (LTGRP). As discussed in the 2022 LTGRP, FEI's future demand will depend on a variety of factors resulting in different demand scenarios. In the figures below, FEI has included the Reference Case, the Diversified Energy Planning, Deep Electrification, and Upper Bound scenarios. FEI believes these four scenarios from the 2022 LTGRP represent the likely range of future demand for FEI to 2041. Please refer to Section 4 of FEI's 2022 LTGRP for detailed discussion of the different demand scenarios.

It can be seen from Figure 1 below that, regardless of the different scenarios, the growth in FEI's customer count is expected to be relatively modest. For sales (demand), except for the Upper Bound scenario, the growth from 2023 to 2027 is expected to be relatively flat, or in the case of Deep Electrification scenario, FEI expects to experience a slow decline in demand. Please refer

to Appendix B5 of FEI's 2022 LTGRP for detailed quantification of Figures 1 and 2 below. FEI notes that the demand shown in Figure 2 below does not include the expected demand from the Woodfibre LNG project.

However, regardless of the demand scenarios, the range of the expected trend in customers and sales (demand) is consistent with the reference in the preamble, which states that FEI is expecting that the growth in rate base is higher than the growth in volumes (demand) since a large portion of FEI's growth in rate base is related to sustainment capital while the growth in demand is relatively modest.

Figure 1: FEI's Customer Forecasts (2023-2027) from FEI's 2022 LTGRP

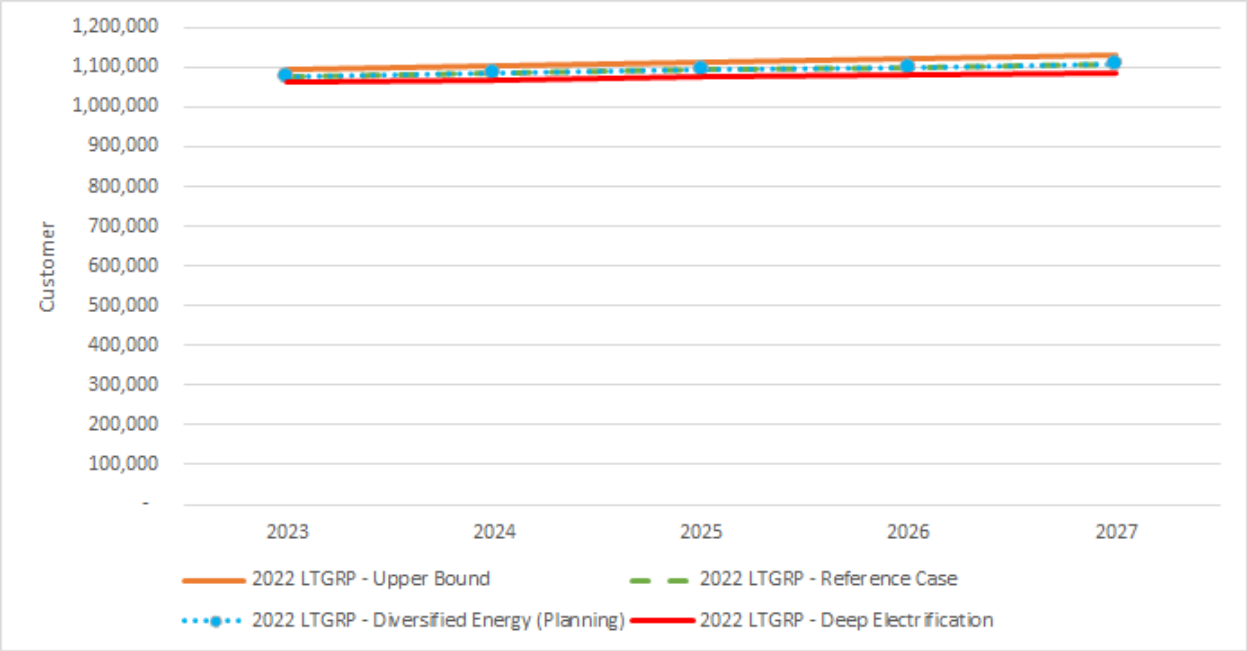
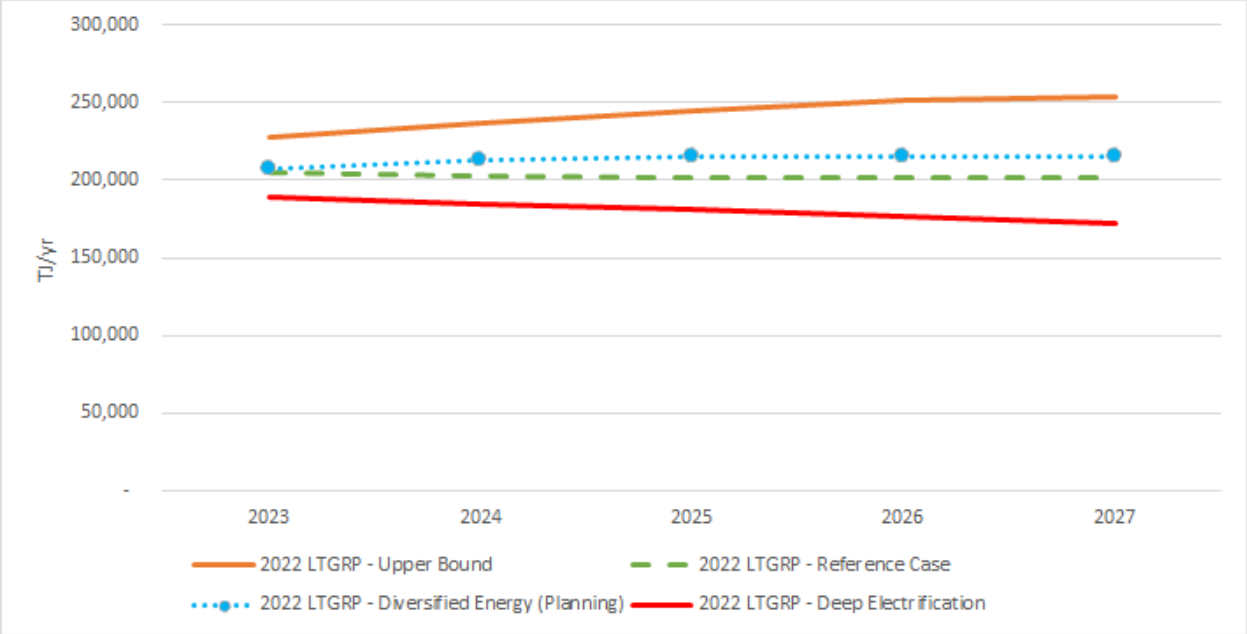


Figure 2: FEI's Sales (Demand) Forecasts (2023-2027) from FEI's 2022 LTGRP



64.2 Please provide description of the success or lack thereof in discussions with the provincial government in recognizing the important value of the FEI system in meeting peak heating loads.

Response:

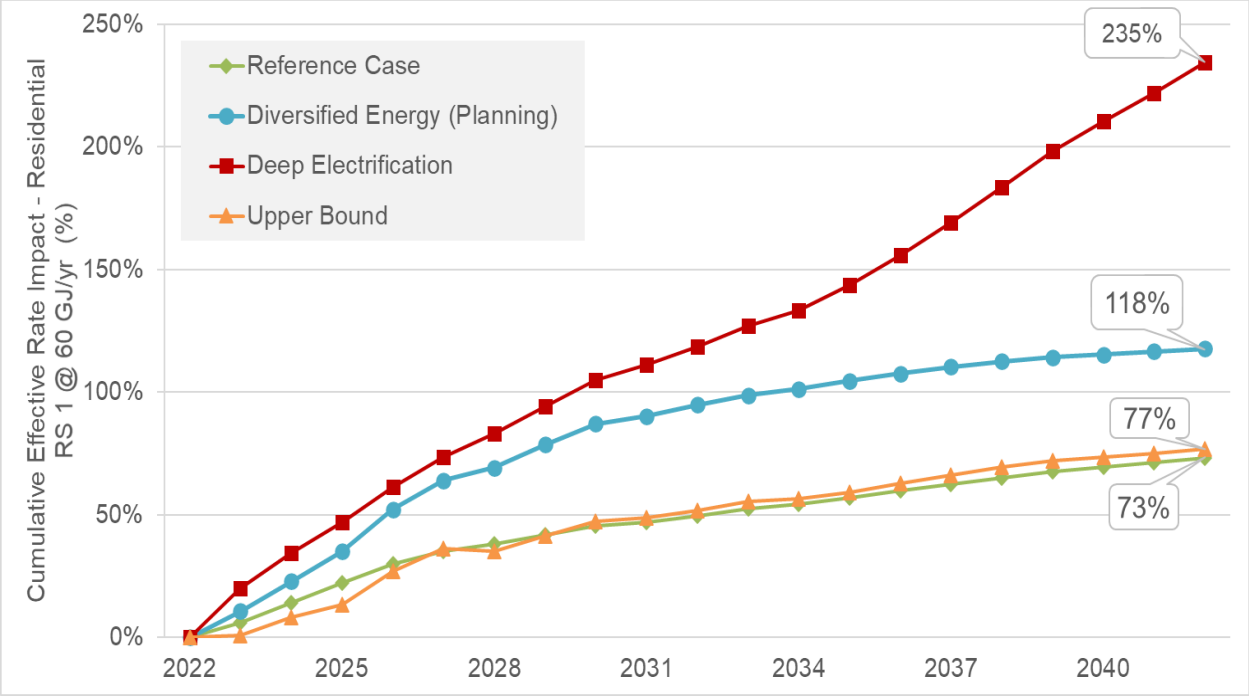
It remains to be seen whether FEI will be able to persuade the provincial government in this regard. The provincial government has neither publicly acknowledged the important value of FEI's system in meeting peak heating loads, nor has the Province developed related policy that reflects this importance.

64.3 Please provide FEI's expectation of the potential impact on rates that would reflect the quantities of gas used at different time-of-use levels and the appropriate allocation of costs, which might result as and if the electrification of loads starts to erode the year-round base loads provided by natural gas.

Response:

Since FEI does not have time of use rates, FEI interprets the question as asking "what would be the rate impact on FEI's customers if the electrification of FEI's main heating load happens, noting that the peak demand impacts the need for capacity related resources". In Section 9.4 of FEI's 2022 LTGRP application, FEI presented a high-level analysis of implications for overall rate impacts across a range of annual demand scenarios including FEI's planning scenario – the Diversified Energy Planning (DEP) scenario – and FEI's Deep Electrification (DE) scenario.

For instance, the figure below demonstrates the cumulative effective rate impact on FEI's residential customers in various annual demand scenarios. As shown, both DE and DEP scenarios result in higher rates; however, the residential rate impact under the DE scenario, where FEI's main heating load is replaced with electricity, results in a materially higher rate impact than other scenarios. The same is true for other rate schedules.



For more information regarding customer rate impacts under different annual demand scenarios, please refer to Section 9.4 of FEI's LTGRP application.

Importantly, FEI notes that it can only provide a rate impact analysis from the point of view of its own customers. Fuel switching to electricity will also have an impact on electricity rates related to both electric energy and capacity demand over the next 20 years and beyond. FEI does not have sufficient information with which to assess the full impact of electrification on electricity rates or potential time-of-use rates for BC Hydro customers over this planning horizon.

65. Reference: Exhibit B1-11, CEC 1.7.1

65.1 Please comment on how the war in Ukraine has impacted the prices, demand, or supply of natural gas in Canada, if at all.

Response:

The war in Ukraine has been one of many factors that have led to increased price volatility and prices strengthening in the US, which has led to Canadian prices following along but not at the same pace as the US prices. North America produced LNG was in high demand to satisfy Europe and Asian energy needs prior to the Ukrainian situation, but the war has added to the market uncertainty. LNG exports from North America have helped link the North America natural gas prices to other world energy commodities like oil.

Supply and demand fundamentals across North America, including LNG exports to service world energy demands, are the reasons for increasing natural gas prices. Contributing to the price increase is increasing natural gas demand due to rising coal prices and limited gas to coal substitution for power generation. On the supply side, natural gas producers continue to use fiscal discipline to improve their balance sheets, which has translated into slower than expected supply growth despite the higher prices.

65.2 Does FortisBC expect any changes in the coming year as a result of the war in Ukraine? Please explain, and provide quantification including general estimates to the extent possible.

Response:

Please refer to the response to CEC IR2 65.1.

66. Reference: Exhibit B1-11, CEC 1.9.2

> 9.2 Please discuss whatever assistance FEI would need from its regulator and from the BC Government to make it possible for FEI ensure customer awareness and acceptance and be able to credibly advance its energy transition case sustainably for the long term.
>
> **Response:**
>
> The Energy Transition and reducing GHGs is a complex and challenging topic to convey to customers to gain awareness and acceptance. From a customer and public education standpoint, governments have a key role in explaining emissions targets, what achieving the targets will look like, how it will impact their day to day lives, what changes will be required and how the cost of energy will increase.
>
> Regarding the gas system, FEI believes that government should provide clear direction and support for the key role of the gas system in helping BC achieve its energy and emissions goals. This would include describing how provincial policies support the continued overall use of gas infrastructure and renewable gases, which supports the financial and operational health of the utility. This would include an energy agnostic and equal approach to emissions reducing measures and activities, whether gaseous or electric.
>
> Finally, government should communicate the foundational nature of policies like the GHG Reduction Standard to local governments in an effort to streamline policies and avoid conflicting messages.

66.1 Please describe FortisBC's view of the role the BC Utilities Commission could appropriately have in supporting energy resiliency in the province through diversity of energy & of energy supply, and in encouraging consideration of all cost-effective options when selecting energy sources for projects.

Response:

The BCUC plays an important role in supporting energy resiliency in the province given that its responsibilities include ensuring that public utilities provide safe and reliable energy service in a cost-effective manner, and a focus on the broader public interest.

Utility Integrated Resource Plans (FEI refers to this as its Long Term Gas Resource Plan), submitted to the BCUC for acceptance, offer an opportunity for the BCUC to examine the implications that different future scenarios can have on energy resiliency and diversity. Long-term future demand for energy is modelled by each utility as part of the integrated resource planning process. Currently, the BCUC has requested that FEI and BC Hydro each model scenarios from the other's resource plans, that are both currently under review by the BCUC. The information will assist the BCUC in assessing whether shorter-term actions being taken by each of the utilities are aligned with long-term planning considerations for supplying and delivering energy to all

customers in BC, considering energy resiliency, GHG emission reductions, long-term capacity requirements and future rate implications for customers.

Cost-effective options to address energy resiliency have been the subject of various requests and directives to FEI. For example, in June 2020, the BCUC directed FEI to file, as a compliance document, an assessment of risks to gas supply resiliency, including both commodity and capacity considerations, in the near-term (1 year) and mid-term (5 years), and a discussion of alternatives available to mitigate these risks. Within this compliance document, FEI was required to discuss potential contracts, investments, capital expenditures and strategies under consideration to address the risk of resiliency.[12] Further, in Order C-2-21, the BCUC Panel directed FEI to address resiliency in a comprehensive manner in its 2022 Long Term Gas Resource Plan.[13]

Nevertheless, BCUC is not a policymaker and its scope of responsibilities is limited by the UCA. In other words, energy policy is ultimately the responsibility of the government and the BCUC may not be able to support the long-term resiliency and diversity of the provincial energy policy if policymakers decide otherwise. For instance, as explained in the response to CEC IR2 63.1, in a recent council meeting, the City of Vancouver Council approved or recommended several measures that will reduce the energy diversity and resiliency in its borders. Despite its mandate, the BCUC has little power to influence these policies.

[12] FEI filed the compliance document on August 31, 2020.
[13] FEI filed its 2022 Long-Term Gas Resource Plan in May 2022.

67. Reference: Exhibit B1-11, CEC 1.11.3

> In addition to the factors discussed above, the number of parties intervening in FortisBC's regulatory processes has increased and, in particular, there has been an increase in the number of "non-traditional" interveners. The increased level of active participation in regulatory processes can cause delays to the overall timetable due to: the need to increase the length (and breadth) of public notice periods; the increased instances of late intervener registration which require timetable extensions; the increase in the number of IRs and the length of time required both for parties to ask IRs and for FortisBC to respond to IRs; and the increased desire by some interveners to file intervener evidence. While aspects of these increased regulatory timelines can be managed by FortisBC through earlier filing of applications, as discussed previously, the timing of filing applications is less often in FortisBC's control.

67.1 Please clarify what FEI means by 'non-traditional' interveners and please give examples.

Response:

FEI uses the term "non-traditional" interveners as convenient shorthand to describe individuals or groups who have not previously regularly participated in BCUC proceedings. Examples of such interveners include:

- Coalition to Reduce Electropollution (CORE) in the FEI Advanced Metering Infrastructure (AMI) CPCN proceeding;
- Citizens for My Sea to Sky Society (MS2S) in the FEI Tilbury LNG Storage Expansion (TLSE) CPCN and the FEI Stage 2 Revised Renewable Gas Program proceedings;
- Brightside, and various individual customers and municipalities entities in the FEI Stage 2 Revised Renewable Gas Program proceeding;
- Indigenous groups and First Nations in the FEI Okanagan Capacity Upgrade CPCN, the FEI TLSE CPCN proceeding, and FEI Acquisition of Stargas Utility Ltd. Assets CPCN proceeding;
- Industry associations such as BC Solar and Storage Industries Association in the FBC Long Term Electric Resource Plan proceeding;
- Force of Nature Alliance in the FEI Stage 2 Revised Renewable Gas Program proceeding; and
- GNAR Inc. – Sustainable Home Design in the FEI Comprehensive Review of the Revised Renewable Gas Program proceeding.

68. Reference: Exhibit B1-11, CEC 1.12.1

Response:

Please refer to the following table which contains the actual and approved return on equity since 2012 for FEI. 2021 actual results are not yet available and will be filed April 30, 2021 in the 2021 FEI BCUC Annual Report, so they are not included in the table below.

FEI - Return on Investment

Years[1]	Allowed	Actual Pre-ESM	Actual Post-ESM[2]	Form of Regulation
	(a)	(b)	(c)	
2012	9.50%	10.12%	-	Cost of Service
2013	8.75%	9.13%	-	Cost of Service
2014	8.75%	9.54%	9.20%	PBR
2015	8.75%	9.51%	9.19%	PBR
2016	8.75%	9.65%	9.28%	PBR
2017	8.75%	9.25%	9.04%	PBR
2018	8.75%	8.99%	8.93%	PBR
2019	8.75%	8.79%	8.85%	PBR
2020	8.75%	8.87%	8.81%	MRP

Notes:
[1] 2012 - 2014 amounts are FEI pre-amalgamation; 2015 - 2020 reflects the amalgamation of the Vancouver Island and Whistler utilities with FEI.
[2] 2012 and 2013 Post-ESM not applicable as no Earnings Sharing Mechanism was approved.

68.1 Please provide any information regarding 2021 results.

Response:

Please refer to the table below for information regarding FEI's 2021 results.

FEI - Return on Investment

Years	Allowed	Actual Pre-ESM	Actual Post-ESM	Form of Regulation
2021	8.75%	8.76%	8.76%	MRP

68.2 Could a record of consistently earning more than the Allowed Rate of Return suggest that there is currently very low risk that the allowed return does not accord with a Fair Return Standard, in that FEI has had ample opportunity to earn its fair return on invested capital? Please explain.

Response:

No. This issue has been addressed in prior cost of capital proceedings. In the 2016 Decision, the BCUC Panel noted that cost of capital decision risk analysis is forward-looking and past performance does not guarantee future performance:[14]

> AMPC/BCOAPO's position is for a risk to remain a risk, it must at some point occur. The Panel is not persuaded that this interpretation of risk is reasonable or reflective of the prospective nature of risk. In the Panel's view, a risk does not disappear because it has not occurred over a period of time and non-occurrence of a risk in the past does not necessarily alter the probability of occurrence in the future.
>
> The Panel does not agree with CEC's assertion that equity investors are concerned primarily with immediate risk and current ROE performance as they can alter their investment when rewards fail to match the immediate risk. While investors certainly consider a risk which has recently occurred, they must be equally concerned about the future prospects of an investment. Further, while it is true investors may sell a particular investment; it would be imprudent of an investor to fail to consider the future prospects of an investment and any potential future risks which may occur.
>
> The Panel accepts FEI's argument that risk is prospective. In the Panel's view, the risk of earning ROE does not disappear in any given test year because of a utility's success in achieving it in prior years. However, this does not mean that an investor does not consider historical performance when choosing to make an investment but in doing so must accept that there is no certainty that past performance will be

[14] 2016 Decision, pp. 11-12.

repeated in the future. Given this, we agree with the parties and consider the attainment of ROE to be a short-term risk and if FEI fails to earn its approved ROE in a given test period, it has the capability to initiate actions to resolve the matter in a short time span.

A second issue is whether there has been a change in FEI's ability to earn its ROE in a given year as compared to the period preceding the 2013 GCOC Decision. …

[Underlining added.]

The consideration of the forward-looking nature of the risk analysis is particularly important when there are significant and continuous changes in the risk environment similar to the environment utilities are currently operating in caused mainly by Energy Transition.

68.3 Please provide any evidence that FortisBC has with respect to whether or not the Commission would in any way likely fail to provide FortisBC a fair return on invested capital and a fair return of invested capital.

Response:

FortisBC expects that the BCUC will set the allowed rate of return for FEI and FBC in a procedurally fair manner that applies the legally-required Fair Return Standard.

However, setting a rate of return in accordance with the Fair Return Standard provides a reasonable opportunity to earn a fair return on invested capital, but does not guarantee a particular return will ultimately be achieved. The historical results provided in the preamble to the question are themselves evidence that actual results can vary from the allowed rate of return.

69. Reference: Exhibit B1-1, CEC 1.18.3

FortisBC Inc
Historic Regulatory Financial Information
($000)

Line no.	Particulars	2011 Actual	2012 [1] Actual	2013 [1] Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Actual	2020 Actual
1	Achieved Pre-Earnings Sharing ROE	11.33%	10.52%	10.21%	9.29%	9.35%	9.52%	9.41%	9.32%	9.15%	9.46%
2	Achieved Post Earnings Sharing ROE	10.67%	-	-	9.22%	9.26%	9.38%	9.31%	9.29%	9.18%	9.30%
3	Allowed ROE	9.90%	9.90%	9.15%	9.15%	9.15%	9.15%	9.15%	9.15%	9.15%	9.15%
4											
5	Actual Pre-Earnings Sharing Return on Capital	8.47%	8.01%	7.59%	7.06%	6.88%	6.78%	6.72%	6.76%	6.65%	6.68%
6	Actual Post-Earnings Sharing Return on Capital	7.99%	-	-	7.03%	6.84%	6.72%	6.68%	6.75%	6.66%	6.62%
7	Approved Return on Capital	7.67%	7.57%	7.18%	7.20%	6.83%	6.69%	6.79%	6.69%	6.71%	6.55%
8											
9	Notes:										
10	[1] Achieved Post Earnings Sharing ROE and Return on Capital not applicable as no Earnings Sharing Mechanism was approved in 2012 or 2013.										

69.1 Please provide 2021 information to the extent available.

Response:

Please refer to the table below for information regarding FBC's 2021 results.

FortisBC Inc
Historic Regulatory Financial Information
($000)

Line no.	Particulars	2021 Actual
1	Achieved Pre-Earnings Sharing ROE	9.37%
2	Achieved Post Earnings Sharing ROE	9.26%
3	Allowed ROE	9.15%
4		
5	Actual Pre-Earnings Sharing Return on Capital	6.47%
6	Actual Post-Earnings Sharing Return on Capital	6.43%
7	Approved Return on Capital	6.54%

70. Reference: Exhibit B1-11, CEC 1.16.2

16.2 Please describe why the PPA with BC Hydro has a limited term and requires renegotiation and does not have a permanence based on the historic contributions to providing low-cost hydro power in British Columbia.

Response:

FBC believes that the BC Hydro PPA represents FBC's share of the BC Hydro Heritage system and that FBC is entitled to such power. However, the relationship between FBC and BC Hydro is complex and there is no guarantee that FBC will continue to enjoy access to PPA power from BC Hydro. The terms and conditions under which FBC receives the PPA power need to be reviewed from time to time. Extensive changes were made in 2013 when the PPA was renewed at that time and FBC anticipates that further changes may be required in 2033 depending on the circumstances at the time. Such changes may include, but are not limited to, the right of FBC customers to export customer-owned generation while taking supply from FBC, the right of FBC to export surplus power from FBC-owned or contracted-for generation while taking supply from BC Hydro, the volume of power under the PPA that FBC is entitled to and the right of FBC to import intermittent power such as from solar and wind[15]. These are fundamental questions relevant to the PPA that will only get more complex as the generation resource mix changes over time.

70.1 Please confirm or otherwise explain that changes that may occur in 2033 should not directly affect the risk of FortisBC at this time, and further at any time up to the point at which the risk might actually change and when another GCOC regulatory review might be undertaken and/or the negotiated settlement with BC Hydro may have occurred.

Response:

Not confirmed. The question seems to suggest that investors are more concerned with immediate risk and for the risk to be considered when it "actually" happens. Some interveners made similar arguments in FEI's 2016 cost of capital proceeding, which were rejected by the BCUC[15]:

> AMPC/BCOAPO's position is for a risk to remain a risk, it must at some point occur. The Panel is not persuaded that this interpretation of risk is reasonable or reflective of the prospective nature of risk. In the Panel's view, a risk does not disappear because it has not occurred over a period of time and non-occurrence of a risk in the past does not necessarily alter the probability of occurrence in the future.
>
> The Panel does not agree with CEC's assertion that equity investors are concerned primarily with immediate risk and current ROE performance as they can alter their investment when rewards fail to match the immediate risk. While

[15] BCUC decision in 2016 Cost of Capital Proceeding (Order G-129-16), pages 11-12.

investors certainly consider a risk which has recently occurred, they must be equally concerned about the future prospects of an investment. Further, while it is true investors may sell a particular investment; it would be imprudent of an investor to fail to consider the future prospects of an investment and any potential future risks which may occur.

Nevertheless, as discussed in FBC's business risk evidence, FBC's power supply risk is similar to what was assessed in the 2013 Stage 2 GCOC proceeding and as such FBC has not proposed any change to its ROE or equity thickness for changes to its power supply portfolio.

71. Reference: Exhibit B1-11, CEC 1.22.1

> 22.1 Please confirm that a reasonable scenario for investors facing less risk due to stranded assets during the advent of the energy transition would be if a gaseous supply of renewable energy as a diverse and lower cost competition to electricity emerges as a long-term viable solution.
>
> **Response:**
>
> Concentric provides the following response:
>
> As discussed on pages 85-87 of Mr. Coyne's report, renewable natural gas and hydrogen gas are among the alternative fuel sources that gas distribution utilities such as FEI may consider to meet the carbon emission targets of federal and provincial governments. However, investors and credit rating agencies have expressed concerns with RNG and hydrogen as alternatives and the cost of such alternatives is not currently competitive with electricity, especially in provinces such as BC where there is low-cost hydro.

71.1 Please elaborate on the concerns expressed by investors and credit rating agencies regarding RNG and hydrogen.

Response:

Concentric provides the following response:

Pages 85-87 of Mr. Coyne's report provide several quotes from investors and credit rating agencies, including Wells Fargo Securities and Standard and Poor's, regarding investor concerns with RNG and hydrogen. In addition, this section of Mr. Coyne's report summarizes additional information from academic and government studies (Columbia University, California Energy Commission, Washington State University Energy Commission, Oregon Department of Energy) regarding potential operational, technical, and financial challenges with alternatives to natural gas.

71.2 Please describe whether or not FEI has informed the investor and rating agencies about the time of use issues for using the natural gas system and the electricity system for supplying heat loads by class of customer, and please provide the evidence of FEI's submissions of information to these parties.

Response:

FEI updates its investors and rating agencies on relevant matters including challenges associated with the Energy Transition. In past meetings with rating agencies, FEI has discussed its 30-By-30 initiatives as well as how these initiatives may impact price competitiveness. Further, relevant documents such as FEI's Clean Growth Pathway as well as the long-term resource planning

application are publicly available to all stakeholders, including investors and rating agencies. In addition, FEI's executives and employees participate in various conferences, debates and podcasts updating stakeholders regarding the value of the gas network and why a diversified pathway is the preferred choice. Investors and rating agencies may also use the published material by third party researchers or industry advocates that discuss the cost-effectiveness of a more diversified approach.

FEI cannot recall any particular submission to investors or rating agencies that specifically addressed the issue of peak demand and capacity restrictions on the electric system if all the heating load currently supplied by natural gas is switched to electricity but has discussed issues related to gas and electric system constraints with credit rating analysts after the October 2018 Enbridge pipeline rupture.

It is important to note that rating agencies and investment analysts are highly specialized in their relevant sectors of coverage and are well attuned to the key regulatory, financial and operational impacts of emerging trends affecting the industries of their covered entities. The peak demand constraints on utilities during high usage events and the implications for broader fuel switching are generally understood and considered foundational knowledge for analysts dedicated to the utility sector.

71.3 Please confirm that a substantial transition from natural gas to electricity, and from ICE vehicles to electric vehicles can be expected to result in significantly increased costs and rates for electricity over the next several years.

Response:

Confirmed. As discussed in Section 4 of FBC's business risk evidence, in the shorter-term, increased load from the electrification of the economy would be expected to have a favourable impact on electric rates, so long as there is capacity on the electric system. However, a drastic increase in customer consumption of electricity will drive additional investment in capital infrastructure, which increases utility costs and rates for existing customers.

71.4 Please provide the comparative quantitative information that investors and credit rating agencies should be looking at in regard to cost-effectiveness comparisons at this time, and comment on the technological future opportunities that should be kept in mind because they may contribute to changes in the cost-effectiveness comparisons.

Response:

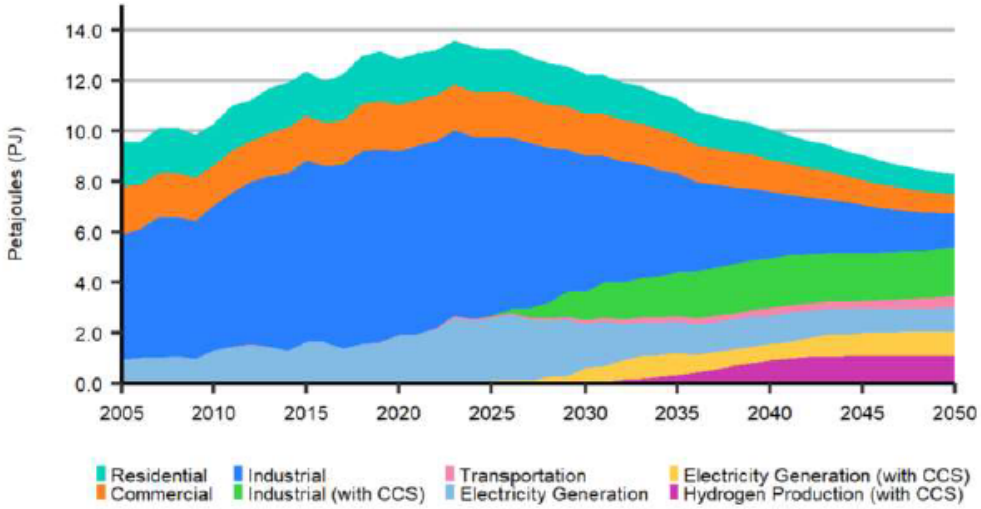
Investors and credit rating agencies may consider various comparative information including but not limited to the comparative price analysis as well as other factors such as scalability of the technology assessed via the current and projected share of Renewable Gas in a utility's gas supply portfolio similar to those provided in FEI's business risk appendix (Appendix A).

The cost-effectiveness comparisons for different fuel sources is discussed in detail in the Appendix A-3 to the 2022 Long Term Gas Resource Plan filed with BCUC on May 9, 2022.

Investors and rating agencies may also consider other non-quantitative factors such as the policy support and permanency of solutions. Technological advancement can potentially improve the cost-effectiveness of the renewable gases such as hydrogen or can create additional competition (for instance, the advances in battery technology can reduce the cost of electricity storage and improve the peak management and price competitiveness of the electrification pathway). As such, investors and rating agencies can also monitor the technology developments.

72. Reference: Exhibit B1-11, CEC 1.22.4

Figure ES.14:
Natural Gas Demand by Sector, Evolving Policies Scenario



In BC, as noted in response to RCIA IR1 3.2, natural gas demand declines by more than 20% by 2050. The CER characterizes this scenario as: "The Evolving Policies Scenario was introduced as the new primary scenario of the Canada's Energy Future series in EF2020." [17] The CER also considered a "Current Policies", and a "Towards Net Zero" scenario. The CER further characterized the scenarios: "The Evolving and Current Policies scenarios do not explicitly model climate goals or targets. Given its static policy framework, the Current Policies Scenario is extremely unlikely to lead to the significant GHG reductions needed to meet Canada's Paris commitments. In the Evolving Policies Scenario, significant GHG emission reductions will be realized, but ambitious goals such as net-zero by 2050 are unlikely to be met."

Mr. Coyne interprets these results as an indication that even the Evolving Policies scenario will be insufficient to meet Canada's net zero by 2050 commitment which became law under the Canadian Net Zero Emissions Accountability Act in June 2021. The projections for natural gas demand in BC and more broadly in North America point to the potential for stranded assets as one of the risks investors face in gas utilities due to the Energy Transition.

72.1 The CEC notes that the total natural gas demand is expected to peak in about 2023, and remain at more than 12 Petajoules until after 2030. What future time periods would investors generally consider when purchasing investments?

Response:

Concentric provides the following response:

In preparing the response to this question, Concentric realized that the Y-axis scale in the chart above is wrong. In May 2021, the CER released an errata to its report in which the Y-axis unit of

measurement in the chart above was changed from petajoules (PJ) to billion cubic feet per day (bcf/d)[16].

There are primary markets (initial offering, where securities are launched) and secondary markets (after the initial offering, traded on the major exchanges) for equity and bonds for corporations and utilities. In the primary market, most corporate and utility bonds have terms from 10 to 30 years, while corporate equity investors typically consider a similar timeframe, although equity itself has an infinite life. Institutional investors, such as insurance companies and pension funds, provide another important source of financing for the utility industry, and have investment horizons that range from 5-7 years out to 30 years. Utility assets typically have average useful lives of 20-30 years or longer, and utilities make investment decisions that generally span the next 30 years or more. Mr. Coyne considers these timeframes reasonably reflective of a primary utility investor's perspective. Secondary markets generally have no restrictions on the holding period, and these investors can be both short and long-term focused, depending on their investment objectives.

72.2 What scenarios has FortisBC considered in regard to mitigating and/or offsetting a stranded asset risk? Please provide all relevant evidence with respect to what could potentially be done and what FortisBC has been doing to avoid this risk.

Response:

Please refer to the response to BCUC IR2 62.4 where FEI explains its vision for the future of energy in BC and how the implementation of its Clean Growth Pathway can help mitigate some of its Energy Transition risks, including stranded asset risks.

72.3 Please describe when FortisBC forecasts a situation where it may incur stranded assets, and what FortisBC can be doing now to avoid such a risk.

Response:

As explained in Mr. Coyne's evidence (Appendix C), the Energy Transition will play out over many decades, but it materially increases the risk today because of the long expected lives of most natural gas utility investments. To the extent that the Energy Transition may result in stranded assets, the actual materialization of this risk would be gradual and similarly will play out over many decades. Nevertheless, as discussed in FEI's 2022 LTGRP, the Deep Electrification scenario

[16] CER – Canada's Energy Future 2021 - Errata (cer-rec.gc.ca).

presents a situation in which gas use could drop significantly by 2042, leading to at least some underutilization of the natural gas assets.

Another aspect of the stranded asset risk is its regional nature. For instance, actions taken by some municipalities, particularly the City of Vancouver, to restrain the use of FEI's gas system (including the use of renewable and low carbon gas) could create a situation in which portions of FEI's system become underutilized over the next 30 years (for instance if the gas use in buildings is prohibited), while the rest of the system will continue to be used for many more decades.

Please refer to the response to BCUC IR2 62.4 for FEI's plans to manage this risk.

73. Reference: Exhibit B1-11, CEC 1.24.1

Figure 65: Comparison of Authorized Equity Returns

Operating Utility	Equity Return	Equity Ratio	Weighted ROE
FortisBC Inc. (existing)	9.15%	40.00%	3.66%
FortisBC Inc. (proposed)	10.0%	40.00%	4.00%
ATCO Electric	8.50%	37.00%	3.15%
Nova Scotia Power	9.00%	37.50%	3.38%
Hydro One Ltd.	8.66%	40.00%	3.34%
Newfoundland Power	8.50%	45.00%	3.83%
FortisAlberta	8.50%	37.00%	3.15%
Maritime Electric	9.35%	40.00%	3.74%
Canadian Electric Average	8.75%	39.42%	3.45%
Canadian Electric Median	8.50%	38.75%	3.36%
U.S. Electric Average	9.50%	49.64%	4.72%
U.S. Electric Proxy Group Average	9.59%	49.76%	4.77%

Figure 57: Comparison of Canadian Investor-Owned Electric Utilities

Company	2020 Retail Customers[207]	2020 Annual Sales (000 GWh)[208]	2020 Annual Revenues C$ (millions)[209]
FortisBC Inc.	143,714	3,291	$412
ATCO Electric	260,552	12,012	$1,218
FortisAlberta	572,000	16,092	$596
Hydro One Networks	1,449,629	28,379	$7,290
Nova Scotia Power	529,000	10,028	$1,494
Newfoundland Power	270,000	5,729	$717
Maritime Electric	84,000	1,293	$219

73.1 Is it FortisBC's position that it is the riskiest utility in the group? Please explain why or why not and supply the evidence upon which this view is based.

Response:

The tables in the preamble to this question were included in the submission prepared by Mr. Coyne (Appendix C to Exhibit B1-8-1) specifically to provide an expert opinion on the relative risk of FBC. In the discussion preceding the tables, Mr. Coyne notes that, "FBC has comparable business risk to other Canadian investor-owned electric distributors, but greater financial risk than its Canadian peers."[17]

FBC accepts Mr. Coyne's conclusion regarding the relative level of risk as compared to the other utilities included in the table, including the opinion that FBC is at least as risky, or riskier than, those listed. The supporting evidence for Mr. Coyne's conclusion is included in the balance of his evidence and can be reviewed there. It is also worth noting that the proposed equity return of 10% for FBC is based on recent market data, whereas those in Figure 65 are from prior decisions.

[17] Exhibit B-8-1, pdf page 349.

74. Reference: Exhibit B1-11, CEC 1.32.1.1

32.1.1 Would FEI expect that such activities can moderate the political risk? Please explain why or why not.

Response:

The BC government has been supportive of expanding the supply of renewable gases. However, significant barriers and risks remain with respect to policy and to date the support has been outweighed by a number of detrimental government policies. For instance, government policy has not addressed the barriers associated with expanding the use of renewable gas in BC. Moreover, the CleanBC Roadmap and related policies introduce a number of policies that will serve to impede the use of renewable gases in the future, including:

- Introduction of 100 percent efficiency standards that restrict the use of conventional gas appliances by 2030[20];
- Phasing out of incentives for conventional gas appliances and equipment;
- Introduction of incentives and funding to promote fuel switching from fossil fuels to electric heat pumps; and
- Increased PST on conventional gas appliances.[21]

The lack of clear direction regarding the role of the gas system in BC's energy future elevates the risk of lower throughput and higher prices, which can negatively influence FEI's ability to recover costs over the long-term. As explained in Concentric's evidence, while RNG and hydrogen may offer a potential pathway for FEI through the Energy Transition, investors perceive significant risk to that pathway because of its operational, political, technical, and financial challenges.

74.1 Please elaborate on the barriers associated with expanding the use of renewable gas in BC, or is FortisBC referencing the CleanBC Roadmap policies noted above?

Response:

FEI's statement regarding the barriers associated with expanding the use of Renewable Gas in BC refers to both;

1. Demand oriented barriers including government policies that result in challenges to the use of gas and connection to the gas system generally that also inhibits or prohibits the use of Renewable Gas; and
2. Supply oriented barriers.

For example, demand oriented barriers include removing rebates for high efficiency gas furnaces, increasing the PST on high-efficiency gas furnaces, and eliminating PST on electric heat pumps which will increase the cost to those who want to use Renewable Gas while simultaneously decreasing the cost of the electric alternative. Further, the Province's policy direction of granting

greater autonomy to local governments and making them, in some instances, the de facto regulators of BC's Step Code is also having a similar impact, as municipalities are using the Step Code as a tool to effectively ban gas use, including Renewable Gas, in favour of the electric alternative. For instance, as explained in FEI's business risk evidence, the City of Port Moody's Low Carbon Energy System (LCES) definition mandates equipment efficiency factors that are not offered in any commercial or pre-commercial end-use gas technology and thus supports fuel switching as their primary objective. Such specification forces homeowners and builders to refrain from connecting to a gas energy source, losing the opportunity to use Renewable Gas and creating a policy conflict with provincial measures to expand Renewable Gas supply. FEI's response to CEC IR2 63.1 highlights another recent example regarding the approved or recommended measures by the City of Vancouver to restrict the use of natural gas or Renewable Gas in the building sector in favour of electrification.

Barriers to developing the supply of renewable and low-carbon gases are also salient and add risk to FEI. These include policy and economic barriers which limit the overall acquisition of these gases. It is still unclear how GHG abatement from using these gases will count toward BC's GHG reduction goals. FEI is limited by the Greenhouse Gas Reduction Regulation on the volume of gas it can acquire as well as the types of gases and the location of these gases. Technical barriers like producing gases using pre-commercial technologies, using feed stocks such as wood wastes where there has not been significant experience to-date, and delivering new gases like hydrogen will likely require modifications to FEI's system and changes to the way it plans and operates its infrastructure.

75.1 Please describe whether or not the BC government approach to policies has been to discuss these in consultation with FortisBC.

Response:

Regarding the aforementioned policies above, the BC government did not seek FortisBC 's input prior to their announcement.

76.1 Please describe the extent of consultation with government that FortisBC has sought.

Response:

FortisBC has sought to engage with the provincial government on all matters related to climate policy to varying levels of acceptance. For example, FortisBC developed its Clean Growth Pathway in 2018 to inform the original CleanBC public consultation process which resulted in a 15 percent renewable gas target. This policy direction was followed up with in-depth engagement to develop the regulatory framework under the Greenhouse Gas Reduction Regulation to achieve the target. In contrast, in 2021, the CleanBC Roadmap to 2030 was developed by the Province without public consultation. Since the Roadmap to 2030 was announced, FortisBC has been actively engaging the Province on relevant policies. However, at this point time there continues to be no clear direction on the role of the gas system and especially no clarification of the role RNG and Hydrogen will have across different sectors of the BC economy.

77.1 Please describe the degree of consultation FortisBC has been engaged in with the BC government.

Response:

FortisBC engages substantively across the Ministries of Energy, Mines and Low-Carbon Innovation, Climate Action Secretariat, Jobs Economic Recovery and Innovation, Finance and the Buildings Standards and Safety Branch among others at the working level and with senior staff and elected officials. For example, following the publication of the CleanBC Roadmap, FortisBC has been consulting with all of these ministries to discuss the policy direction of the emissions cap obligation for BC's natural gas utilities.

78.1 Please describe the potential that this consultation might increase the likelihood of sufficient certainty to create a workable solution for FortisBC to participate in the Energy Transition undertaken in BC.

Response:

FortisBC expects to continue its consultation to advance policy solutions in regard to GHG reduction pathways in BC. However, as discussed in FEI's business risk evidence as well as several responses to BCUC and interveners' information requests, there are many factors in addition to policy risks that are beyond FEI's control that create risk for FEI in the transition. These factors include technological risks to realize the portfolio of GHG reducing solutions that FEI is

able to provide, market acceptance and competitive risks to deploy those solutions, and social risks such as acceptance of new infrastructure, appliances and energy sources.

79. Reference: Exhibit B1-11, CEC 1.35.1

Response:

To clarify, municipal regulations are creating unequal access to FEI's gas system for customers to use either conventional or Renewable Natural Gas.

Since the 2016 Proceeding, the climate and energy policies at the local government level have evolved with a variety of measures implemented at a much faster pace. A growing number of municipalities are using various approaches to reach their ambitious GHG reduction targets. These include the adoption of stringent BC energy Step Code (Step Code) levels for new buildings and/or requiring the builders to meet or exceed certain GHGi targets per square metre of floor space, effective bans on the use of conventional natural gas equipment by requiring efficiency levels higher than 100 percent, requiring the connection to District Energy Systems (DES) and other measures such as financial and non-financial incentives for all electric options for space and water heating applications. Furthermore, an increasing number of local governments (such as the City of Surrey and District of Squamish- see response to CEC IR1 35.2) are enacting policies or incentives that favour the use of electricity over Renewable Gas to lower emissions in buildings, creating a significant impediment on the ability for a customer or builder/developer to access FEI's gas system.

79.1 Please confirm that FEI is making concerted efforts to educate municipalities as to FEI's GHG reduction options, and to influence policy at the municipal level in order to enhance customer and builder/developer opportunities to access FEI's gas system.

Response:

Confirmed. FEI is engaging with municipalities at multiple levels, including elected officials, senior city staff and department leads, to build awareness of FEI's decarbonization solutions such as renewable gas. This engagement includes group presentations, one-on-one discussions and in some cases, input into community climate policy plans. As described in the response to CEC IR2 78.1, political risk at the municipal level remains high despite FEI's concerted efforts to engage and educate.

79.2 Please discuss the partners available to FEI for a joint level of advocacy with respect to municipal accommodation.

Response:

As noted in response to BCUC IR1 5.1 in the RG Application, municipalities are each a heterogeneous group:

> As a result, the movement of information through local governments regarding FEI's innovations in Renewable Gas, and the associated GHG emission reductions that can be achieved through the revised Renewable Gas Program, is a complex and lengthy process requiring continuous and on-going interactions, raising awareness and education. As such, it is a significant challenge to ensure that local governments, and all their departments, are informed and able to adopt offerings such as Renewable Gas into their options, policies, and procedures for the building sector.

Despite this challenge and as further detailed in the referenced IR response, FEI has invested in raising awareness of Renewable Gas to help all British Columbians, including local governments, city planners, and developers, better understand the capability of Renewable Gas to reduce GHG emissions and displace the use of conventional natural gas.

FEI has also sought to create higher levels of awareness and support for the role of both gas and electric infrastructure in a decarbonized economy, along with greater alignment and collaboration at both municipal and provincial levels to achieve this goal.

FEI has garnered support for its efforts to use Renewable Gas to meet municipal emissions reductions targets as evidenced by the 90+ letters of support received for the Comprehensive Review and Application for Approval of a Revised Renewable Gas Program from numerous industry and business interests and a smaller number of municipal and Indigenous groups provided letters of support.

However, FEI would not characterize these as partnerships for joint municipal advocacy, rather, these are parties that FEI has made aware of its climate solutions, established some alignment, and in turn the parties have supported FEI's solutions as they help provide choice for customers. While there are many entities that express support for FEI's efforts, most stakeholders are cautious and have concerns about voicing support for FEI's efforts or forming a partnership to advocate along with FEI as they do not want to attract negative attention or jeopardize their business objects within a municipality. This will continue to present challenges to FEI in its efforts to help educate municipal and provincial policy makers.

80. Reference: Exhibit B1-11, CEC 1.37.2

37.2 Please confirm that FEI expects to be able to secure enough RNG to meet its targets.

Response:

At this point in time FEI expects to be able to secure enough RNG to meet its targets. However, as the targets move out in time, the uncertainty increases. This is primarily for two reasons.

First, FEI is not sure of what those targets will be and they can change. For example, for some years FEI has been targeting that 15 percent of its supply would be low carbon by 2030. On October 25 2021, in its update on the CleanBC plan, the Province indicated that they planned to implement an emissions cap on the natural gas sector which would imply a need for a much higher amount than 15 percent of low carbon gas. This new target has not found its way into legislation yet and is only eight years away.

The second reason is that as times passes, FEI expects to see more competition for RNG which could manifest in higher prices and/or scarcity of supply. For that reason, FEI is diversifying its supply into other low carbon fuels such as hydrogen. While FEI is confident that it can incorporate hydrogen into its delivery systems, it is not currently something that is done outside industrial applications, so the work needed to make the system ready and the speed and extent of adoption by customers is less certain.

80.1 Please confirm that it is currently believed that a maximum of 10% to 15% hydrogen could be safely incorporated in FEI's delivery system without major changes in infrastructure.

Response:

Yes, FEI believes that it is possible to distribute hydrogen as a blend from 10 percent to 15 percent by volume in the gas system safely without major changes in infrastructure. This understanding is based on current industry research and considers FEI's gas system infrastructure, end-use customer appliances and equipment and other factors, including having suitable mitigations in place.

81. Reference: Exhibit B1-11, CEC 1.39.5

> 39.5 Please confirm that expected changes in system capacity do not represent a regulatory risk, but are instead a demand risk, which is discussed and accounted for earlier in FEI's submissions along with the political risk.
>
> **Response:**
>
> Not confirmed.
>
> As explained in FEI's business risk evidence, when performing risk analysis, other risk factors and categorizations are possible, and some risk factors could be captured under a different risk category. In other words, in certain cases, some level of risk overlap may be inevitable. Certain developments, conditions or events can impact multiple risk categories and FEI believes that discussing the various risks that are driven by the same root causes is important to understand the business' overall risk profile. This highlights the interconnected nature of risk analysis and demonstrates the importance and magnitude of the impact of a risk category.
>
> Nevertheless, in this case there is a distinction between the demand and operational aspects of system capacity upgrades and the regulatory risk due to uncertainty around regulatory approvals for FEI's initiatives to add to system capacity.

81.1 Please confirm that while certain risks may overlap into different categories, it is appropriate to ensure that the risk is captured in full, but the magnitude of the risk should not be over-emphasized by identifying it in multiple areas.

Response:

FortisBC does not believe that its business risk analysis over-emphasizes the magnitude of any risk category. As mentioned in the response to CEC IR1 39.5, some risk events can impact multiple risk categories. If they occur, these types of risk events have a higher magnitude of and broad impact on a utility's business. Therefore, the inter-connected nature of risk analysis does not over-emphasize the risk but rather provides necessary context to understand the magnitude of and scope of the impact of any individual risk event.

82. Reference: Exhibit B1-11, CEC 1.39.6

> 39.6 Would FEI describe the BCUC's approach to RNG as being reasonably supportive? Please explain why or why not.
>
> **Response:**
>
> The GGRR provides for the acquisition of RNG since 2017 and more recently in 2021, hydrogen, syngas and lignin, such that the BCUC has had limited discretion. However, on December 21, 2021, the BCUC initiated a public inquiry into the acquisition of RNG after approximately 5 years of allowing acquisitions through the GGRR. While FEI believes that the BCUC is generally supportive, the BCUC appears to question the regulation and how it should be interpreted.

82.1 Please confirm that work in clarifying interpretation of certain aspect of the GGRR does not imply any lack of support for RNG, and could equally be seen to be enhancing the opportunity for the acquisition of RNG

.

Response:

FEI confirms that the inquiry does not imply any lack of support for RNG. Regardless of the possibility of a positive outcome, the existence of uncertainty indicated by the initiation of the BCUC inquiry into the acquisition of RNG creates risk for FEI.

83. Reference: Exhibit B1-11, 1.47.1 and 1.47.2

47.1 Please confirm that the pandemic has caused economic uncertainty world-wide and is not unique to FortisBC.

Response:

Confirmed. The above discussion was comparing the impacts of economic conditions on FortisBC in previous proceedings to now; not a comparison to the impacts of economic conditions on FEI and FBC to other utilities or companies.

Response:

As stated in the response to CEC IR1 31.5, in today's economic environment, the COVID-19 pandemic and its impact on supply chain issues as well as record high inflation are the prominent economic risk events that are impacting all utilities. However, the magnitude of impact for these risk events depends on the individual circumstances of each utility. For example, the pandemic had a bigger and longer negative impact in some jurisdictions or some utilities may be facing higher regional inflation than others. Therefore, FBC believes that it is fair to say that FBC's economic risk is comparable to other small electric utilities in Canada; however, it cannot comment on the degree of comparability without more detailed study of the individual utilities' circumstances.

83.1 Please confirm that, to the extent the comparator utilities experienced similar changes in risk to that experienced by FortisBC as a result of the pandemic or other global events, there should not be any difference from the group added to FortisBC's relative risk position.

Response:

Confirmed. As explained in FortisBC's filed evidence, one can analyze the business risk by comparing the direction and pace of change in risk factors for the same company over time, or by analyzing a company's risk relative to other firms. In the case of a global risk event where other peer group companies experience similar changes in risk, there would be no material impact on relative risk. However, when considering the change in risk over time, the risk impact should be considered. For instance, assuming that inflation affects peer group companies in a similar fashion, the relative risk as among those companies would remain unchanged; however, the risk of record high inflation compared with previous years should still be considered in the risk analysis.

83.2 Please elaborate on the bigger and longer negative impact the pandemic has had on different jurisdictions and may be expected to have in the future.

Response:

The statement regarding the pandemic's bigger and longer negative impact in some jurisdictions refers to the fact that some jurisdictions imposed tougher restrictive measures to curb the spread of COVID-19 or that their economies were more affected by the global economic shutdown as a result of the pandemic and therefore endured a bigger and longer economic downturn. For instance, as shown in Table A3-1 of FEI's business risk (Appendix A), Alberta's economic dependence on global energy prices and sharp decrease in oil and gas consumption during the pandemic resulted in an 8.1 percent decline in its 2020 GDP. Similarly, relative to BC, the lock downs imposed by the governments in Ontario and Quebec were longer and more widespread leading to a more significant negative impact on their economies in 2020. As the pandemic threat fades and is replaced by the threat of record high inflation, provincial economies are facing new challenges and opportunities with provincial economies in Alberta, Saskatchewan or Manitoba now expected to benefit from higher global commodity prices.

83.3 Does FBC intend to conduct a more detailed study of the individual utilities' circumstances? Please explain and, if yes, please explain when this study will be executed.

Response:

As explained in the response shown in the preamble, FBC believes that FBC's economic risk is similar to other small Canadian utilities and that analyzing the impact of economic conditions at the provincial level, as is done in the business risk evidence, is appropriate. FBC is not planning to conduct a more detailed study of the impact of inflation on individual utility costs. Doing so would be very time consuming and requires detailed knowledge of each utility's cost pressures. Please also refer to the response to BCOAPO IR2 81.1