FASKEN

Fasken Martineau DuMoulin LLP
Barristers and Solicitors
Patent and Trade-mark Agents

550 Burrard Street, Suite 2900
Vancouver, British Columbia V6C 0A3
Canada

T +1 604 631 3131
+1 866 635 3131
F +1 604 631 3232

fasken.com

October 26, 2023

File No.: 240148.01053

Christopher R. Bystrom
Direct 604 631 4715
Facsimile 604 632 4715
cbystrom@fasken.com

Electronic Filing

British Columbia Utilities Commission
Suite 410, 900 Howe Street
Vancouver, BC V6Z 2N3

Attention: Mr. Patrick Wruck, Commission Secretary

Dear Sirs/Mesdames:

Re: FortisBC Energy Inc. ("FEI") Revised Renewable Gas Program Application – Stage 2 - Final Submission

In accordance with the regulatory timetable in the above proceeding, we enclose for filing the Final Submission of FortisBC Energy Inc., dated October 26, 2023.

Yours truly,

FASKEN MARTINEAU DuMOULIN LLP

[Original signed by]

Christopher Bystrom*
*Law Corporation

Encl.

cc (email only): Registered Interveners.

BRITISH COLUMBIA UTILITIES COMMISSION

FORTISBC ENERGY INC.

COMPREHENSIVE REVIEW OF A REVISED RENEWABLE GAS PROGRAM

FINAL SUBMISSION

OF

FORTISBC ENERGY INC.

October 26, 2023

Prepared by: Fasken Martineau DuMoulin LLP - Christopher Bystrom, Tariq Ahmed and Niall Rand

Table of Contents

PART ONE: INTRODUCTION

A. Overview of Application

1. FEI's Comprehensive Review and Application for a Revised Renewable Gas Program (Application)[1] marks a significant turning point for FEI's Renewable Gas[2] Program (also referred to as the RNG Program or Program). Since 2010 when it was first introduced, the RNG Program has been successful because of the many customers that have voluntarily committed to paying more to have a percentage of their supply delivered as renewable natural gas (RNG). These customers have been able to use the gas system to meet their own greenhouse gas (GHG) reduction goals, contributed to lowering GHG emissions in the Province, and benefited from biomethane credits against their carbon tax.[3] With FEI's increasing supply of RNG, the Renewable Gas Program is now poised to play a greater role in meeting the needs of customers for low carbon solutions and reducing GHG emissions in the Province.

2. Although the Program has successfully achieved the objectives for which it was designed,[4] changes to the Program are now needed due to:

- the significant increase in RNG that FEI is acquiring pursuant to the *Greenhouse Gas Reduction (Clean Energy) Regulation* (GGRR) to reduce GHG emissions in alignment with government climate policy;
- a public policy landscape that has evolved significantly in recent years with the introduction of the CleanBC Roadmap to 2030 (CleanBC Roadmap) which contemplates an emissions cap for natural gas utilities and the introduction of greenhouse gas intensity (GHGi) limits in the residential construction sector through the Zero Carbon Step Code; and
- customer needs for RNG beyond the existing voluntary service.

---

1 Exhibit B-11, Application, as amended by Exhibit B-11-1 and Exhibit B-88.

2 In this proceeding, FEI has used the term "Renewable Gas" to refer collectively to the low carbon gases or fuels that the utility can acquire under the *Greenhouse Gas Reduction (Clean Energy) Regulation*, which are: Renewable Natural Gas (RNG or biomethane), hydrogen, synthesis gas and lignin. As the scope of this proceeding has been restricted to RNG only, Renewable Gas generally refers to only RNG in this Final Submission, unless the context indicates otherwise.

3 Exhibit B-11, Application, Section 2.2.

4 Exhibit B-11, Application, Section 2.2.

In response, FEI is seeking approval of three discrete and independent changes to the Program, which together will offer a comprehensive Renewable Gas Program to meet customers' needs:

- First, in response to FEI's increasing supply of RNG to meet provincial GHG reduction goals, FEI is proposing a new Renewable Gas Blend service that would provide all sales customers with a blend of RNG as part of their gas supply.
- Second, to comply with the GHG reduction polices for the new residential construction sector, FEI is proposing a new Renewable Gas Connections service to provide all new residential construction customers with a low carbon gas service that would consist of 100 percent RNG, permanent for the life of the building, at a rolled-in price.
- Third, in light of the emissions cap for natural gas utilities in the CleanBC Roadmap and other developments, FEI is proposing changes to the pricing of the existing voluntary RNG Program:[5]
  - Natural gas for vehicle (NGV) customers to pay a Low Carbon Gas Charge equivalent to the weighted average cost of supply of RNG given that the GHG reductions from these customers will not contribute to meeting the emissions cap for natural gas utilities applicable to FEI's other customers.
  - Transportation Service (T-Service) customers to pay a Low Carbon Gas Charge equivalent to the average weighted cost of supply of RNG, given that these customers do not purchase a commodity from FEI and therefore will not be otherwise contributing to the cost of the Program.
  - The $1/GJ discount for the rate paid for RNG under a long-term contract for T-Service customers to be cancelled, given that the Blend service would negate the need for an incentive to increase demand.

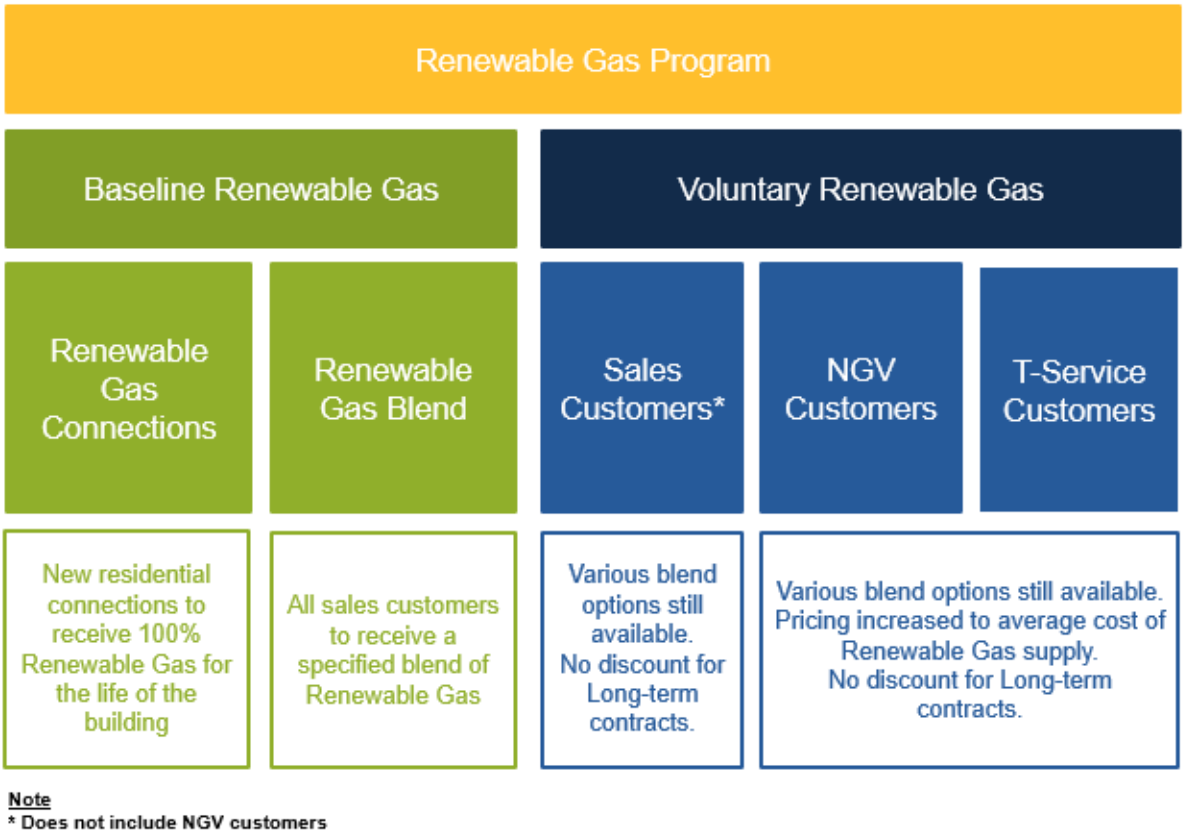
3. Figure 7-1 from the Application below illustrates the proposed structure of the revised Renewable Gas Program.[6] Together, the three components of the revised Renewable Gas Program (Renewable Gas Blend, Renewable Gas Connections and Voluntary Renewable Gas services) represent a comprehensive suite of Renewable Gas services that respond to the need for changes to the Program at this time. These three components are complementary, but each is also distinct and capable of being implemented independently of the others.

---

[5] In Order G-3-22, Exhibit A-9, the BCUC approved FEI's first proposed change, which was to expand the Program to RS 7 customers.

[6] The original version of this figure filed in the Application referenced targeting a 1 percent Renewable Gas Blend in 2024. This target has been superseded by FEI's August 2023 Evidentiary Update (Exhibit B-89).

Figure 7-1: Revised Renewable Gas Program



Rate Design is Endorsed by Independent Expert

4. FEI's rate design for the Revised Renewable Gas Program is supported by the independent expert opinion of John Reed of Concentric Energy Advisors Inc. (Concentric). Mr. Reed's resume and testimony list is included in Exhibit B-17, PDF pages 2 to 43. Amongst other qualifications, Mr. Reed has provided expert testimony on financial and economic matters on more than 400 occasions before the FERC, Canadian regulatory agencies, state utility regulatory agencies, various state and federal courts, and before arbitration panels in the United States and Canada. As supported by Mr. Reed's evidence, the rate design and pricing proposals for the revised Renewable Gas Program are just and reasonable and reflect a reasonable and appropriate balancing of Bonbright rate design principles and other regulatory objectives. FEI submits that Mr. Reed's expert testimony should be given significant weight.

Illustration and Explanation of Charges Under the Revised Renewable Gas Program

5. FEI will recover the costs of the Renewable Gas Blend from all customers who purchase their commodity from FEI (sales customers), through a new low carbon rider on the existing Storage and Transportation (S&T) Charge. FEI refers to this new rider as the S&T Low Carbon rider (S&T LC rider).[7] The new rider is attached to the S&T Charge so that all sales customers to which FEI supplies energy, including through the Customer Choice Program, will bear this cost such that their annual bills are equal at equivalent use rates.[8] The S&T LC rider will recover the forecast weighted average cost of the RNG supplied through the Blend. These sales customers will also receive a carbon tax (biomethane) credit[9] for any volume of RNG that they receive to offset the carbon tax they otherwise would have paid. Consistent with how the Biomethane Variance Account (BVA) delivery rate rider works today, the S&T LC rider will also recover from sales customers any other costs of the Renewable Gas Program not otherwise recovered from Voluntary or Connections customers, as well as carbon tax credits granted to customers but not refunded by the Province.[10] FEI will set the S&T LC rider each year as part of its fourth quarter gas report.[11]

6. FEI will also charge Voluntary Renewable Gas and Renewable Gas Connections customers a Low Carbon Gas (LCG) Charge specific to each service, as illustrated in the figure and table below.

7. The figure below provides an illustration of the charges for RNG by service type.[12]

---

7 For discussion of the S&T LC rider see: Exhibit B-11, Application, Section 8.4.2 (pp. 116-118).

8 Exhibit B-68, Rebuttal Evidence to CoV et al. (Mr. Strunk), A3 (pp. 2-3).

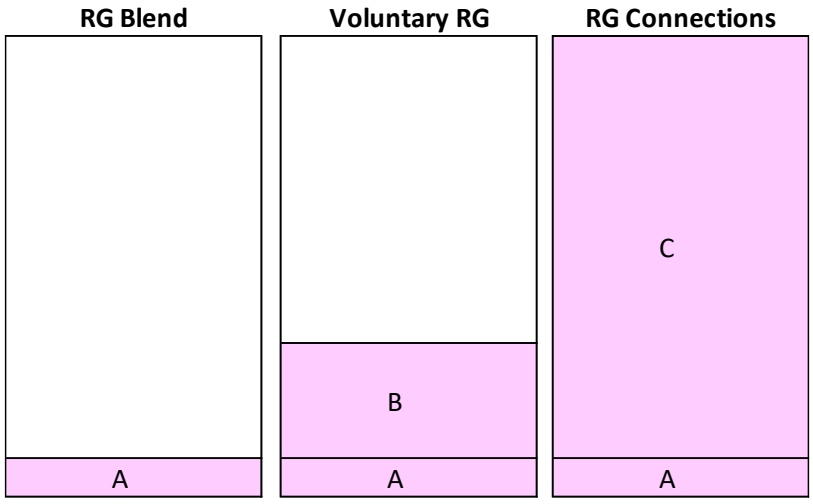
9 As required by the *Carbon Tax Act*.

10 Exhibit B-11, Application, Section 8.4.2.1. The current program currently recovers costs through the BVA delivery rate rider; Exhibit B-89, Evidentiary Update, pp. 16-17.

11 Exhibit B-42, BCUC IR2 49.1.

12 Exhibit B-17, BCUC IR1 36.2.

Figure 1: Renewable Gas Delivered by Service Type



A = RNG paid for through S&T LC Rider
B = Voluntary RNG paid for with LCG Charge for Voluntary RNG
C = RNG paid for with LCG Charge for RNG Connections

In the figure above, each rectangular area represents 100 percent of the gas consumed by each of these three types of sales customers. The shaded (pink) areas represent RNG, while the white areas represent conventional natural gas. Assuming FEI is delivering a 3 percent RNG blend to all sales customers, then A is 3 percent of the 100 percent gas delivered to all customers. Assuming the Voluntary Renewable Gas customer elects to receive 15 percent of their gas as RNG, then B equals 12 percent and A + B = 15 percent. The Renewable Gas Connections customer receives the rest of their gas above 3 percent, or 97 percent, as RNG so that 100 percent of the gas they receive is RNG.[13]

8. The revenue received from the LCG Charge (B and C) will be captured in the Low Carbon Gas Account (LCGA). This revenue will offset the costs of the Renewable Gas Program which are also captured in the LCGA. The balance in the LCGA will be recovered from all sales customers through the S&T LC rider. Thus, all sales customers will benefit from any revenue from the LCG Charges, as this revenue will reduce the amount of costs recovered through the S&T LC rider.

[13] Exhibit B-17, BCUC IR1 36.2.

9. Table 1 below explains how the LCG Charge will be applied and set for the Renewable Gas Connections and Voluntary Renewable Gas services.

Table 1: Cost Recovery via the LCG Charge[14]

	Renewable Gas Connections	Voluntary Renewable Gas for Sales Customers	Voluntary Renewable Gas for NGV Sales Customers	Voluntary Renewable Gas for T-Service Customers
Applicable Renewable Gas Volume	• S&T LC rider for the percentage of RNG provided through the Blend. • LCG Charge for the remaining RNG provided via Renewable Gas Connections	• S&T LC rider for the percentage of RNG provided through the Blend. • LCG Charge for the remaining RNG selected via the Voluntary Renewable Gas offering.		• No S&T rider • LCG charge for the percentage of RNG selected via the Voluntary Renewable Gas offering.
Applicable Rate for LCG Charge	Commodity Cost Recovery Charge (CCRC) plus carbon tax per GJ.	CCRC plus carbon tax +$7 per GJ.	Forecast weighted average cost of acquisition per GJ less S&T LC rider	Forecast weighted average cost of acquisition
Rate Setting Process for LCG Charge	LCG Charge adjusted quarterly to account for quarterly changes in the CCRA and carbon tax per GJ.		LCG Charge updated each year based on forecast costs, through annual rate setting process.	

Revised Program Was Informed by Significant Stakeholder Engagement

10. Public consultation was an integral component of FEI's application development process and provided an opportunity for stakeholders to ask questions, provide input and, ultimately, inform FEI's proposals for the revised Renewable Gas Program. Prior to filing the Application, FEI conducted consultation in two phases encompassing one-on-one discussions and group meetings with 176 stakeholders.[15] The consultation process was extensive and comprehensive, including proactively discussing details of the Application with stakeholders, addressing concerns and responding to questions in a timely manner. FEI also conducted customer research and surveys,

[14] Based on Table 8-2 in Exhibit B-11, Application, p. 115.

[15] Exhibit B-11, Application, p. 135.

including a survey of Renewable Gas Program customers in 2021 and interviews with large volume customers.[16] This extensive stakeholder consultation, research and survey information was integrated into and deeply informed FEI's proposals.

Changes to Program Reasonably and Appropriately Respond to Customer Needs

11. As informed by its consultation activities, FEI submits that the revised Renewable Gas Program reasonably and appropriately responds to customer needs. First, by incorporating a Renewable Gas Blend for all sales customers, customers will be able to benefit from the increasing volumes of RNG that FEI is acquiring to meet provincial GHG reduction targets for the gas supply. Second, the Renewable Gas Connections service will provide customers in the new residential construction sector with a low carbon gas service market that complies with the GHGi limits for that market as set by government. Third, the Voluntary Renewable Gas offering as revised will continue to give customers the option to purchase up to 100 percent RNG, allowing customers to obtain RNG as a low carbon energy solution to meet their GHG reduction goals. The three offerings forming the revised Renewable Gas Program will individually and collectively help keep rates affordable for customers, by maintaining the efficient use of the existing gas system assets which, in turn, will also help to maintain the long-term viability of the gas delivery system to preserve energy choice and ensure a more reliable and resilient energy system for British Columbians.

There is Broad Support for the Application from a Diverse Range of Customers and Other Stakeholders

12. FEI submits that its proposed revisions to the Renewable Gas Program will better meet the needs of customers, as evidenced by the broad stakeholder support for the Application, including local governments, industry associations and Indigenous Groups, across its service territory.[17] Substantive letters of support for FEI's Application have been received from many individuals and organizations that are directly interested in or affected by the challenges and

---

[16] Exhibit B-11, Application, Appendices B-1 and B-2, respectively.

[17] Exhibit B-11, Application, p. 144.

opportunities associated with reducing GHG emissions in British Columbia and, in particular, those generated by the built environment. These include:

- Municipalities and regional governments that support the Renewable Gas Program on the basis that FEI's proposals will assist in meeting climate action targets, enable a variety of low carbon energy options and meet their resiliency needs during the winter.[18]

- Organizations such as the Aboriginal Housing Management Association,[19] the Building Owners and Managers Association of British Columbia[20] and the Canadian Homebuilders' Association of BC[21] that recognize the importance of choice in addressing affordability and emissions reductions.

- Businesses,[22] including one that states that its facilities are subscribed to 100 percent use of RNG provided by FortisBC, and that the use of RNG is helping it achieve its goal of being net zero.[23]

- Real estate developers[24] who note the importance of affordability and optionality for customers, as well as the benefits of the use of RNG as a "drop-in" fuel.

---

[18] Exhibit E-3 (City of Coquitlam); Exhibit E-28 (City of West Kelowna); Exhibit E-38 (Town of Creston); Exhibit E-39 (District of Chetwynd). See also Exhibit E-9 (City of Kelowna); Exhibit E-29 (Regional District of Okanagan Similkameen); Exhibit E-31 (Town of Oliver); Exhibit E-31 (District of Logan Lake); Exhibit E-36 (District of Sicamous); Exhibit E-84 (District of Hope); Exhibit E-136 (District of Kent); Exhibit E-244 (City of Kamloops); Exhibit E-252 (City of Campbell River).

[19] Exhibit E-20.

[20] Exhibit E-22.

[21] Exhibit E-140.

[22] Exhibit E-175 (Bryans Mechanical Ltd.). See also Exhibit E-179 (G. Datoff & Sons Bldg Ltd.); Exhibit E-181 (Merdyn Group of Companies); Exhibit E-182 (Metropolitan Hospitality Management); Exhibit E-184 (Airstream Mechanical); Exhibit E-200 (Dueck General Contracting); Exhibit E-203 (DRG Plumbing & Heating Ltd.); Exhibit E-240 (Rosvold, D.); Exhibit E-242 (Zebra Group); Exhibit E-246 (Archgard Fireplaces); Exhibit E-247 (Blaze King); Exhibits E-257, E-269, 269-1, 269-2 and 269-3 (Pro-West Sales Ltd.); Exhibit E-258 (Broekhuysen, J.); Exhibit E-262 (Rolston Plumbing & Heating); Exhibit E-267 (Logan, S.); Exhibit E-270 (Khowutzun Development Corporation); Exhibit E-271 (AES Engineering Ltd.); Exhibit E-278 (Cowichan Bay Investments Ltd.); Exhibit E-280 (The Fireplace Warehouse); Exhibit E-281 (Savannah Heating Products).

[23] Exhibit E-23.

[24] Exhibit E-26 (ARPA Investments Ltd.); Exhibit E-138 (Algra Bros. Development Ltd); Exhibit E-150 (Wesbild Holdings Ltd.); Exhibit E-155 (Cheah Developments); Exhibit E-156 (Formwerks Boutique Properties); Exhibit E-173 (Ghinis Holdings); Exhibit E-174 (Zenn Developments); Exhibit E-180 (Sartori Custom Homes); Exhibit E-192 (CAOBC Construction LTD.); Exhibit E-194 (Citta Construction Ltd.); Exhibit E-201 (Befus, C.); Exhibit E-206 (Elmworth Construction); Exhibit E-212 (Holland Creek Partnership); E-217 (Miles, P.); Exhibit E-225 (Sharpline Developments); Exhibit E-226 (Shulver, D.); Exhibit E-228 (Silva Pacific Developments); Exhibit E-251 (Westhills).

- Trade groups such as the Thompson Okanagan Tourism Association,[25] the Heating, Refrigeration and Air Conditioning Institute of Canada,[26] the Canadian Institute of Plumbing & Heating,[27] the Victoria Residential Builders Association[28] and the BC Hotel Association which notes that "[u]se of RNG is the most efficient and financially feasible way to make the operations of our members carbon neutral from the fuel point of view."[29]

13. While letters of opposition have been filed by individuals in this proceeding, FEI's proposed RNG services are designed to provide choice to customers that wish to have a low carbon gas service to meet their needs. As indicated above, there are many customers and stakeholders, including municipalities, that support FEI's proposed services and they should have a low carbon gas service available to meet their needs. For example, the City of West Kelowna identifies RNG as a measure needed to meet its climate action strategies, stating:[30]

> As part of our climate action strategies, supporting our residents with more choice to reduce greenhouse gas (GHG) emissions from their new home is important to the City and further supports government energy policies. […] The City believes that FortisBC is advancing sustainable and cost-effective renewable gas options as an industry leader that would also reduce fuel source retrofits if included in future new home construction. Implementing renewable natural gas provides environmental and socio-economic benefits that not only benefits the end user but also supports the commitment of all levels of government to achieve GHG emission reduction targets.

14. The BCUC's approval of the Renewable Gas Connections service will provide a low carbon gas service option for the many customers that desire such a service, all of which will provide benefits to FEI's customers and support a more diversified approach to energy delivery in British Columbia that is reliable, resilient and cost-effective.

---

25 Exhibit E-30.

26 Exhibit E-172.

27 Exhibit E-193

28 Exhibit E-245.

29 Exhibit E-34.

30 Exhibit E-28.

Revised Renewable Gas Program is Beneficial and in the Public Interest

15. In summary, FEI's revised Renewable Gas Program responds to the context within which FEI now operates by meeting government policies aimed at reducing GHG emissions and providing customers with options designed to suit their needs and the regulations to which they are subject. The revised Renewable Gas Program also provides the mechanisms by which FEI can match supply to demand, and ensure all RNG is sold, thereby reducing GHG emissions in BC as quickly as new supply can be brought online. The three services forming the revised Renewable Gas Program will also encourage the use of existing gas system assets by both existing and future customers, helping to keep rates more affordable for customers, and will maintain energy choice and a diversified energy system for British Columbians. FEI therefore submits that its proposals are beneficial and in the public interest and should be approved.

B. Approvals Sought

16. As reflected in the Evidentiary Update,[31] FEI is seeking the following approvals in this proceeding.

Renewable Gas Blend and Consequential Amendments

17. First, pursuant to sections 59 to 61 of the UCA, FEI requests all of the following approvals to be effective the first of the month at least two months after the date of the BCUC's final decision in this proceeding:

- Approval of FEI's proposed Renewable Gas Blend as described in Sections 7 and 8 of the Application, as amended by the Evidentiary Update to reflect FEI's proposal to set the blend percentage on a monthly basis.[32]
- Approval of consequential and other changes to the existing Voluntary Renewable Gas service rate schedules to reflect implementation of the Renewable Gas Blend service, definitions, naming conventions and associated rate rider changes, as summarized on pages 27 and 28 of the Evidentiary Update.[33]

---

31 Exhibit B-89, Evidentiary Update.

32 Exhibit B-89, Evidentiary Update.

33 Exhibit B-90, BCUC IR3 1.1.

- Approval to discontinue the Biomethane Variance Account (BVA) delivery rate rider and to begin the use of the S&T LC rider.
- Approval to discontinue the BVA Balance Transfer Account.
- Approval to change the name of the Biomethane Variance Account (BVA) to the Low Carbon Gas Account (LCGA).
- Approval to change the name of FEI's Biomethane Energy Recovery Charge to the Low Carbon Gas Charge.

18. FEI proposes that the related blacklined tariff changes to FEI's General Terms and Conditions (GT&Cs) and Rate Schedules be submitted to the BCUC subsequent to the BCUC's Decision and final order in this proceeding to ensure the tariff changes reflect directives in the decision.

Treatment of Unrecovered Biomethane Credits

19. Second, given that it is not possible for FEI to perfectly match forecast supply and demand in a reporting period (month) and that FEI collects carbon tax from customers and grants carbon tax (biomethane) credits to customers on behalf of the Province, FEI is requesting approval to capture any carbon tax credits that FEI has granted or grants to customers, but which are not refunded to FEI by the Province, by recording them in the BVA, which FEI has proposed to be renamed as the LCGA.

Renewable Gas Connections Service and Changes to Voluntary Renewable Gas Offerings

20. Third, given that the Renewable Gas Connections service and changes to the Voluntary Renewable Gas offerings will take more time to implement (approximately five months), FEI proposes that the effective date for the remaining approvals sought related to these service offerings be proposed in a compliance filing subsequent to the BCUC's final decision in this proceeding, filed at least 30 days prior to implementation, and will include all the revised tariff pages for BCUC review, approval and endorsement. These approvals sought are:

- Approval of FEI's proposed Renewable Gas Connections service as described in Sections 7 and 8 of the Application and the corresponding new RS 1PLC, RS 2PLC, RS 3PLC and RS 5PLC in Attachment D-2 of the Application.

- Approval of FEI's proposed changes to the Voluntary Renewable Gas offering as described in Sections 7 and 8 of the Application, and the corresponding new and amended Rate Schedules in Attachment D-2 of the Application.

21. FEI proposes that the related blacklined tariff changes to FEI's GT&Cs and Rate Schedules be submitted to the BCUC subsequent to the BCUC's final decision in this proceeding to ensure the tariff changes reflect directives in the decision.

22. For clarity, FEI is not seeking an approval from the BCUC to set the specific rates, such as the actual amount of the S&T LC rider and LCG Charges, or the RNG blend percentages in this proceeding, but rather the rate-setting methodologies and associated changes to FEI's GT&Cs to implement the revised Renewable Gas Program rate design. After receiving approval of the rate-setting methodologies from the BCUC, the rates themselves will be set in future proceedings.[34]

23. Finally, while FEI has limited its approvals sought to RNG in accordance with the scope set by Order G-165-22A,[35] FEI continues with its plans to acquire other renewable and low carbon gases or fuels to meet GHG reductions targets and will address the acquisition, utilization and pricing (rates) of other gases and fuels in future applications.[36]

24. A draft order sought is included in Appendix A of Exhibit B-89.

C. Organization of this Submission

25. While the evidence in this proceeding has covered a broad spectrum of topics related to the Renewable Gas Program, FEI respectfully submits that the BCUC should focus on the approvals sought in FEI's Application Evidentiary Update and, specifically, the three changes to the Program that FEI is seeking. FEI has therefore organized the remainder of this submission around the three proposed changes to the Program, and the following points:

- **Part Two:** The proposed Renewable Gas Blend is just and reasonable and should be approved.

---

[34] Exhibit B-42, BCUC IR2 45.1.1.

[35] Exhibit B-42, BCUC IR2 45.2. FEI intends to file amended tariff revisions after the BCUC issues its final decision on the Application. These amended tariffs would remove references to hydrogen, lignin and syngas along with any additional amendment(s) arising from the BCUC's decision.

[36] Exhibit B-42, BCUC IR2 46.2.

- **Part Three:** The proposed Renewable Gas Connections service is just and reasonable and should be approved.

- **Part Four:** The proposed changes to the Voluntary Renewable Gas Program are just and reasonable and should be approved.

- **Part Five:** FEI has ample supply of RNG to meet the meet the demand for RNG from the revised Renewable Gas Program.

- **Part Six** concludes this final submission.

PART TWO: BLEND FOR SALES CUSTOMERS IS NECESSARY AND IN THE PUBLIC INTEREST

26. FEI submits that its proposed Renewable Gas Blend (or Blend) service, as described in Sections 7 and 8 of the Application[37] and as modified by FEI's Evidentiary Update,[38] is a necessary addition to the Program at this time, is just and reasonable, and should be approved. Through the Renewable Gas Blend service, FEI is proposing that all sales customers (i.e., those who purchase their gas from FEI)[39] receive a percentage blend of RNG as part of their regular gas service, with the percentage of RNG set each month based on a forecast of RNG supply and demand. FEI's sales customers will not need to sign up to receive the Renewable Gas Blend, nor would they have an option to decline the Renewable Gas Blend. Rather, the integration of RNG into the gas supplied to sales customers is designed to be seamless from the customer perspective, with the percentage of RNG received shown on their bill.[40] Sales customers will also receive a carbon tax (biomethane) credit for any volume of RNG that they receive to offset the carbon tax they otherwise would have paid.[41]

27. FEI's submissions below are organized around the following points:

- The Renewable Gas Blend service is needed to sell FEI's increasing RNG supply and meet provincial GHG reduction targets.
- The blend percentage needs to be set as frequently as monthly to maximize carbon tax refunds for customers.
- The cost of carbon tax (biomethane) credits granted to customers, but not refunded by Province will be captured in the LCGA and recovered from customers through the S&T LC rider.

---

37 Exhibit B-11, Application, Sections 7 and 8.

38 Exhibit B-89, Evidentiary Update.

39 Sales customers are those served by Rate Schedules (RS) 1, RS 2, RS 3, RS 4, RS 5, RS 6 and RS 7. Customers that do not purchase their commodity from FEI, i.e., transportation or "T-Service" customers, take service under other rate schedules.

40 Exhibit B-11, Application, p. 98.

41 Exhibit B-11, Application, p. 96.

A. Renewable Gas Blend is Needed to Meet GHG Reduction Targets and Balance RNG Supply and Demand

28. FEI submits that the Renewable Gas Blend service is necessary at this time to provide FEI with a mechanism to meet provincial GHG reduction targets and balance the supply and demand for RNG.

29. As reflected in the CleanBC Plan and CleanBC Roadmap, the Province is seeking to transition the gas system away from delivering conventional natural gas to delivering Renewable Gas, and to cap emissions from gas used to heat homes and business at 47 percent below 2007 levels.[42] While other options such as energy efficiency will contribute towards this emissions cap, RNG is required to meet these policy goals.[43] A revised Renewable Gas Program must, therefore, contain mechanisms to ensure enough RNG can be delivered to a broad range of customers to support these provincial policy objectives.

30. In line with government policy, FEI has significantly increased its supply of RNG since starting the Program in 2010.[44] The acquisition of RNG also needs to be accelerated to meet the anticipated emissions cap for natural gas utilities proposed in the CleanBC Roadmap.[45] However, FEI's existing Program, which is limited to a voluntary service, does not generate sufficient demand to consume the supply of RNG FEI is acquiring. Notably, at the time of FEI's Evidentiary Update in August 2023, FEI had accumulated approximately 1.5 PJ of RNG inventory and was accumulating approximately 200 TJ of additional RNG inventory each month.[46] Without an option to sell the excess RNG, FEI would need to use the approved UBPDA/CCRA method of inventory cost recovery and apply to the BCUC to sell the RNG as conventional natural gas. The effect of this would be that the environmental attributes would be lost, and customers would not benefit from a carbon tax (biomethane) credit.[47]

---

42 CleanBC Roadmap, p. 29.

43 Exhibit B-17, BCUC IR1 1.1.

44 Exhibit B-11, Application, Section 6.2.

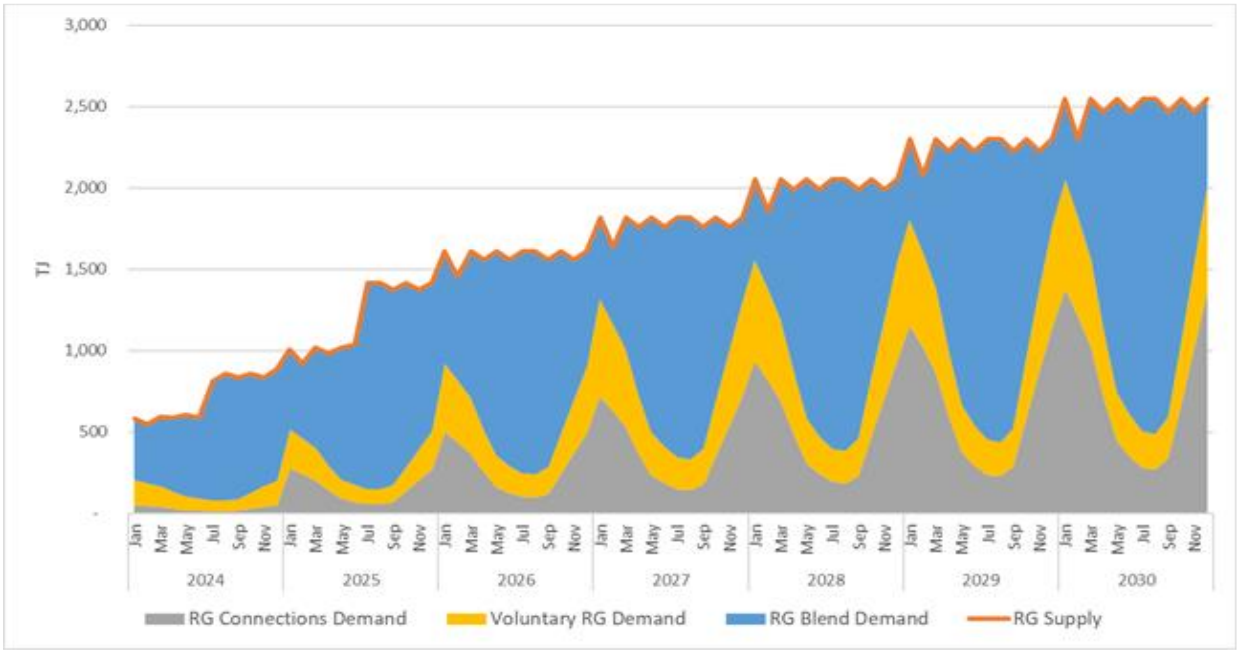
45 Exhibit B-89, Evidentiary Update, p. 6.

46 Exhibit B-89, Evidentiary Update, pp. 6-7. See also Exhibit B-90, BCUC IR3 9.1.

47 Exhibit B-90, BCUC IR3 7.2; Exhibit B-89, Evidentiary Update, pp. 6-7.

31. Figure 5-4 of the Evidentiary Update, reproduced below, illustrates how FEI's forecast RNG supply (the orange line) greatly exceeds the forecast demand from the Voluntary Renewable Gas offerings (in yellow). The blue shaded portion represents the volume of RNG that FEI plans to provide to customers through the Renewable Gas Blend service (i.e., any volumes that are not sold to Voluntary or Connections service customers).[48] Customers receiving RNG through the Renewable Gas Blend service would be able to report or claim a commensurate reduction in GHG emissions and FEI would provide customers with carbon tax (biomethane) credits as required by the *Carbon Tax Act*.[49]

Figure 5-4: Monthly Renewable Gas Supply and Demand when the Blend Percent is set Monthly[50]



32. Introducing the Renewable Gas Blend for all sales customers helps to achieve broad and rapid GHG emission reductions, at scale, without spending on incentives or requiring customers to incur any capital expenses.[51] For example, in total, residents and businesses in the City of Vancouver (Vancouver) consume approximately 10 million GJ of gas annually. If FEI provides one

---

48 Exhibit B-11, Application, p. 99. See also Exhibit B-90, BCUC IR3 9.1 and BCUC IR3 9.2.

49 Exhibit B-89, Evidentiary Update, pp. 6-7; Exhibit B-90, BCUC IR3 7.2.

50 Exhibit B-89, Evidentiary Update, Figure 5-4.

51 Exhibit B-11, Application, pp. 99.

percent of the gas to Vancouver as RNG, that equates to displacing 100 thousand GJ of conventional natural gas. In aggregate, the 100 thousand GJ of RNG supplied to Vancouver is approximately the same as 2,200 detached homes switching to zero emission heating, but without the need to change out equipment. From the homeowner's perspective, a reduction of their GHG emissions by blending RNG into their gas service requires no investment of time, energy, or money, and the effect on their energy cost is small.[52] As explained by the Building Owners and Managers Association:[53]

> It is important to our members to have options for emissions reduction as each building's circumstances are different; one option does not fit all. […] Renewable gas provides an option for members whose buildings may not be able to undertake sufficient retrofits to meet forthcoming emissions targets.
>
> BOMA BC members already voluntarily purchase renewable gas and want to purchase more. In addition to the voluntary program, we support that FortisBC will begin to blend renewable gas into many of our members' buildings starting in 2024.

33. Assuming all FEI sales customers consume approximately 140 million GJ a year, one percent RNG would equal 1.4 million GJ, or the same as converting over 30 thousand furnaces to electricity (or other low emission energy sources). As noted above, these GHG emission reductions can occur rapidly. As the end use customer does not need to change any equipment or sign up for a new service, FEI will be able to reduce the carbon content of the gas stream without the need for additional provincial or municipal regulation at the building level, or for changes in infrastructure on the part of customers, or FEI.[54]

34. FEI submits that the proposed Renewable Gas Blend service is needed and in the public interest. The Blend will advance the objectives set out in the CleanBC Plan and CleanBC Roadmap, by enabling FEI to balance its RNG demand with its RNG supply, and sell sufficient levels of RNG to meet provincial GHG reductions targets rapidly and at scale.

---

52 Exhibit B-11, Application, pp. 99.

53 Exhibit E-22.

54 Exhibit B-11, Application, p. 99.

B. Blend Percentage Needs to be Adjusted on a Monthly Basis to Maximize Carbon Tax Returns

35. As was the subject of FEI's Evidentiary Update in August 2023, FEI proposes to adjust the percentage of RNG for the Renewable Gas Blend service as frequently as on a monthly basis to maximize the carbon tax refund FEI recovers on behalf of customers from the Province.[55] Specifically, FEI will determine the blend of RNG for each month based on the forecast supply and demand for RNG for the upcoming month.[56] This will enable FEI to sell as much as it can of the RNG it acquires each month to customers in that month, which will maximize the carbon tax refund available for the benefit of customers.

36. As discussed in detail in FEI's Evidentiary Update, the driver of the need to set the RNG blend percentage on a monthly basis is related to FEI's ability to recover carbon tax refunds from the Province equal to the carbon tax (biomethane) credits granted to customers. As a retail dealer under the *Carbon Tax Act*, FEI is registered with the BC Ministry of Finance (the Ministry) to charge, collect, report and remit the carbon tax from its customers on behalf of the Province on retail sales of natural gas to its customers. In accordance with the *Carbon Tax Act*, FEI must provide biomethane customers with a carbon tax (biomethane) credit on their bill on behalf of the Province that is proportionate to the amount of biomethane sold to each customer. This means that FEI is required to provide these credits on the bills issued to its RNG customers, whether or not FEI is able to reduce its carbon tax remittances to the Province by these amounts. Given the dollar value of carbon tax that FEI collects from its customers, FEI is required to remit carbon tax to the Province on a monthly basis.[57]

37. The Ministry has recently confirmed its interpretation that a retail dealer such as FEI can only claim a carbon tax refund for the lesser of the amount of biomethane credits provided to customers in the reporting period and the amount of biomethane that is physically blended in the same reporting period.[58] Specifically, for the purpose of the *Carbon Tax Act*, the Ministry's

---

55 Exhibit B-89, Evidentiary Update, pp. 11-16.

56 Exhibit B-89, Evidentiary Update, pp. 9-10 and 16; Exhibit B-90, BCUC IR3 10.1; Exhibit B-93, CEC IR3 77.1.

57 Exhibit B-89, Evidentiary Update, p. 4.

58 Exhibit B-89, Evidentiary Update, p. 4.

interpretation is that blending of biomethane is limited to the biomethane physically injected in the pipeline during the reporting period. As FEI is required to file its carbon tax remittances on a monthly basis, it has a monthly reporting period. Consequently, rather than rely on the inventorying of RNG through the BVA as has been FEI's practice,[59] FEI must sell any biomethane that is blended that month in order to receive a carbon tax refund from the Province for any carbon tax (biomethane) credits granted to customers.[60]

38. FEI's compliance with the carbon tax regime is challenging given the difference between seasonal patterns in RNG demand and the relatively flat supply of RNG. Demand for energy from FEI's sales customers is typically heat sensitive. Consequently, demand for RNG is greater in the winter months than it is in the summer months. However, the supply of RNG is not heat sensitive and is generally acquired by FEI from suppliers evenly across the year.[61] To maximize the availability of carbon tax refunds from the Province on behalf of its customers, FEI must shape its monthly RNG demand to better match its RNG supply.

39. While the RNG imbalances and resulting carbon tax refund losses are relatively minor to date,[62] and the Ministry has indicated that it is considering FEI's request for changes to the carbon tax legislation,[63] FEI cannot be certain that any legislative change will be made. Therefore, it is important that FEI proactively address this issue now given the rising volumes of RNG it will be acquiring and the expected increase in the carbon tax.[64]

40. The monthly RNG supply and demand imbalance that would result from setting the RNG blend percentage on an annual basis (as originally proposed in the Application) is illustrated in Figure 5-3 of the Evidentiary Update, as reproduced below. As shown in the figure, there would be a large seasonal imbalance between RNG supply and demand, during which FEI would not be

---

59 Exhibit B-90, BCUC IR3 3.1.

60 Exhibit B-89, Evidentiary Update, p. 4.

61 Exhibit B-89, Evidentiary Update, pp. 11-16.

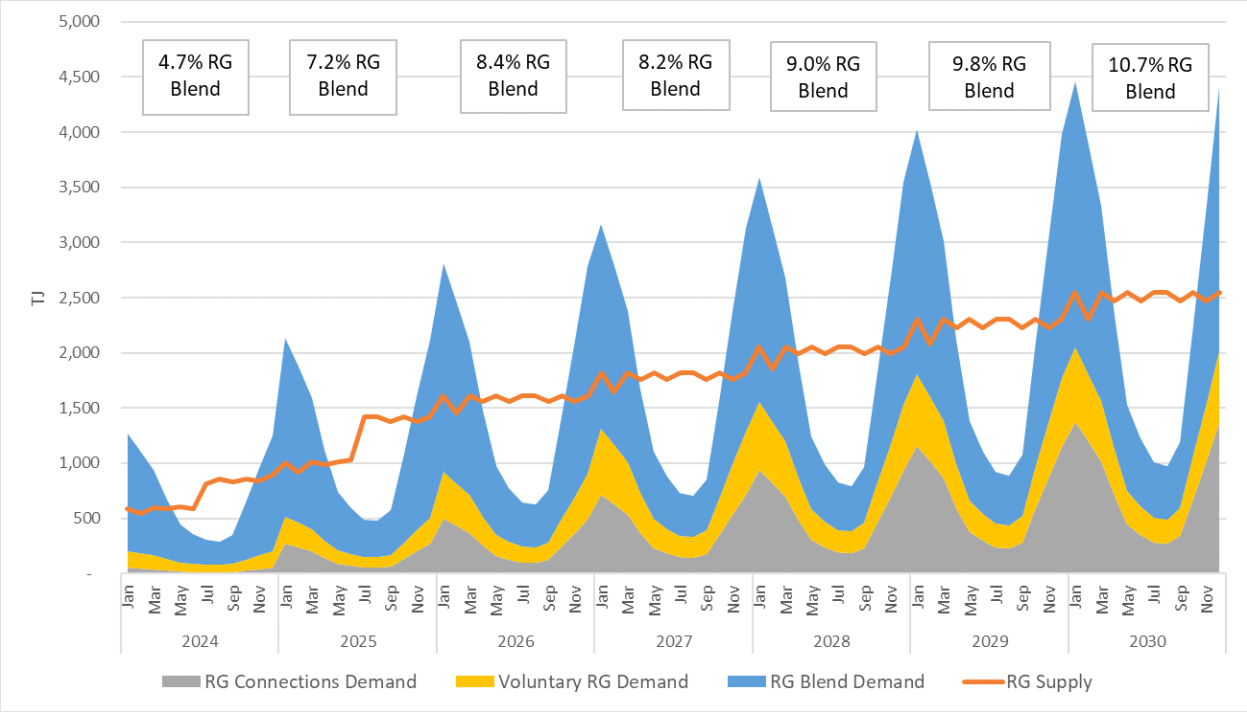
62 Exhibit B-91, BCOAPO IR3 23.1.

63 Exhibit B-89, Evidentiary Update, p. 5.

64 Exhibit B-90, BCUC IR3 6.1.

able to receive carbon tax refunds from the Province commensurate with the carbon tax (biomethane) credits granted to customers.

Figure 5-3: Monthly Renewable Gas Supply and Demand when the Blend Percent is set Annually



41. By setting the Renewable Gas Blend percentage on a monthly basis, FEI will be better able to match available RNG supply for blending (i.e., consistent/flat supply) with the heat sensitive demand (i.e., inconsistent/variable demand) of sales customers.[65] This will help maximize the recovery of carbon tax credits associated with the RNG volumes received by customers.[66]

42. While the actual blend will be set monthly, FEI will set the S&T LC rider annually in its Q4 Gas Cost Report,[67] based on a forecast overall blend it will provide to customers over the year. Setting the S&T LC rider in this way will ensure that there is no monthly bill volatility, with respect to the recovery of RNG costs, as a result of changing the Renewable Gas Blend percentage each

---

65 Exhibit B-89, Evidentiary Update, pp. 11-16.

66 Exhibit B-89, Evidentiary Update, p 15.

67 Exhibit B-42, BCUC IR2 49.1. See also Exhibit B-90, BCUC IR3 2.1.

month.[68] Some monthly bill variability will occur due to the a change in the weighting of the different priced gas supplies and the effect this has on net carbon tax paid, but this monthly bill variability will be small relative to the total customer bill.[69] To be clear, this variability is not due to changes in any of FEI's charges on a monthly basis and, therefore, does not require any monthly approvals from the BCUC.[70] FEI will, however, notify the BCUC and customers of the blend percentage each month.[71]

43. FEI submits that its proposal to set the percentage blend on a monthly basis is a prudent and necessary response to the Ministry's interpretation of the carbon tax legislation, and will allow FEI to manage supply and demand in a way that maximizes benefits for its customers.

C. LCGA Needed to Capture Biomethane Credits Not Refunded by Government Due to Variances in Monthly Supply and Demand

44. FEI submits that it is just and reasonable for any carbon tax credits that FEI has granted or grants to customers, but which are not refunded to FEI by the Province, be recorded in the BVA (to be renamed the LCGA) for recovery from customers. This treatment is necessary due to the requirements of the carbon tax legislation – specifically, FEI is obligated to provide biomethane credits to its RNG customers, but it is not possible for FEI to perfectly match forecast RNG supply and demand within the monthly reporting period.

45. FEI is taking all reasonable steps to balance its RNG supply and demand monthly, including by proposing to set the RNG blend percentage on a monthly basis, and taking the supply-side measures discussed in its Evidentiary Update.[72] FEI also considered other alternatives to address the possibility for supply and demand imbalances, such as adjusting the Renewable Gas Blend on a shorter interval, temporarily discontinuing the existing RNG Program, or deferring the recovery of carbon tax credits. However, none of these alternatives were prudent or feasible. For example, FEI does not have the forecasting tools to forecast an RNG blend percentage on a shorter interval

---

68 Exhibit B-89, Evidentiary Update, pp. 9-10, 16-17.

69 Exhibit B-94, MoveUP IR3 3.1. See also Exhibit B-90, BCUC IR3 10.1.

70 Exhibit B-91, BCOAPO IR3 24.1.2. See also Exhibit B-91, BCOAPO IR3 25.3.

71 Exhibit B-89, Evidentiary Update, p. 28; Exhibit B-91, BCOAPO IR3 25.4.

72 Exhibit B-89, Evidentiary Update, Section 4.1.

than monthly, and deferring recovery until there is legislative change would not be prudent given that the Ministry has not committed to making any such change.[73]

46. Therefore, FEI will not be able to perfectly match RNG supply and demand on a monthly basis. This is ultimately because FEI will need to set the percentage of the Renewable Gas Blend on a prospective basis, based on a forecast of RNG supply and a forecast of demand from the Renewable Gas Connections, Voluntary Renewable Gas customers and sales service customers.[74] While the forecast will be only for the month ahead, the actual amount of RNG supply and demand are subject to variances from forecast due to factors beyond FEI's control, such as the weather. In fact, weather is expected to be the primary driver for monthly variances between RNG supply and demand.[75] While FEI forecasts demand based on normal weather, in practice, warmer and colder weather will cause RNG demand to deviate from normal, potentially creating imbalances.[76] Unfortunately, the carbon tax legislation not only imposes a monthly balancing requirement on FEI, but also contains no exceptions, including for variations between supply and demand due to factors outside the control of a RNG retailer such as FEI. Thus, if FEI's forecast results in a residual imbalance whereby demand in a given month exceeds supply, then the Province will not provide a refund for the carbon tax (biomethane) credits that FEI is obligated to grant to customers on the amount of RNG by which demand exceeds supply.[77]

47. To enable recovery of carbon tax (biomethane) credits granted to customers that are not refunded by the Province, FEI proposes to account for un-refunded carbon tax credits in the LCGA, to be recovered from all sales customers in a subsequent period when setting the S&T LC rider.[78] FEI submits that its proposed treatment of un-refunded carbon tax credits is just and reasonable, and reflects a prudent approach to addressing the requirements of the carbon tax regime.

---

73 Exhibit B-90, BCUC IR3 12.1.

74 Exhibit B-89, Evidentiary Update, pp. 16-17; Exhibit B-93, CEC IR3 77.5.

75 Exhibit B-90, BCUC IR3 12.3.

76 Exhibit B-90, BCUC IR3 12.3.

77 Exhibit 89, Evidentiary Update, p. 16.

78 Exhibit B-89, Evidentiary Update, pp. 16-17.

PART THREE: CONNECTIONS SERVICE IS JUST AND REASONABLE AND IN THE PUBLIC INTEREST

48. FEI submits that its proposed Renewable Gas Connections service is just and reasonable and in the public interest. The service is needed and required now to provide a low carbon gas service to customers that complies with government policy and regulations limiting GHGi levels in the residential construction sector. Since filing the Application, the Province has enacted the Zero Carbon Step Code which creates a framework for any local government in British Columbia to adopt building emissions performance targets (i.e., GHGi targets). To comply with these GHGi targets, the Renewable Gas Connections service is designed to enable new residential connection customers to be served with RNG and reduce their emissions, by providing 100 percent RNG for the life of the building for all new residential connections, at a rolled-in price. Overall, the Renewable Gas Connections service will respond to customer needs for a low carbon gas service in the residential construction sector, preserve energy choice, promote economic efficiency and help keep rates more affordable, while supporting a diversified energy system that is more cost-effective, reliable and resilient for customers.

49. FEI's submissions in the subsections below are organized around the following points:

- The Renewable Gas Connections service is needed to allow new residential connection customers to access RNG as a pathway to reduce their GHG emissions.
- Permanency for the life of the building is required to meet policy requirements (Key Attribute #1).
- 100 Percent RNG is needed to meet all levels of the Zero Carbon Step Code (Key Attribute #2).
- The service is designed to be available to all new residential connections across FEI's service territory (Key Attribute #3).
- Rolled-in pricing is consistent with the Bonbright ratemaking principles and regulatory practices, and is just and reasonable (Key Attribute #4).
- The service will provide significant benefits and is in the public interest.

A. The Connections Service Is Needed to Allow New Residential Connection Customers to Access RNG as a Pathway to Reduce their GHG Emissions

50. The Renewable Gas Connections service is needed to provide a low carbon gas service that will enable new residential connection customers to utilize RNG to comply with government policy to reduce GHG emissions from the new residential construction sector.

51. As expressed in the CleanBC Roadmap, provincial government policy seeks to eliminate carbon pollution from new homes.[79] Even prior to the release of the CleanBC Roadmap, a growing number of local governments began implementing changes to their building codes, planning guidelines, or zoning bylaws to reduce GHG emissions in new building construction projects and in some cases existing building retrofits and improvements.[80] Further, the provincial opt-in Zero Carbon Step Code, which took effect May 1, 2023, now allows local governments to implement GHGi limits for operations of new buildings with several different performance GHG target steps.[81] The Zero Carbon Step Code includes four emission levels (EL). EL-2, EL-3, and EL-4 are comprised of GHGi limits which cannot be exceeded. For these levels, if only conventional natural gas were to be used in the building's energy systems, the CO2 emissions would exceed these GHGi limits. Therefore, the GHGi levels must be met by using a low carbon energy source such as electricity or RNG.[82]

52. The Renewable Gas Connections service is therefore needed to provide a low carbon gas service to new residential construction customers that can comply with the highest levels of the Zero Carbon Step Code. Without a new service, new residential customers will be unable to meet their energy requirements using the gas system or utilize RNG as a low carbon pathway, and will thus have limited energy choice.[83]

---

79 CleanBC Roadmap, pp. 8-9.

80 These bylaws and policies are described in detail in Exhibit B-11, Application, Appendix A. Also see Exhibit B-42, BCUC IR2 48.2.2; Exhibit B-36, BCOAPO IR2 19.4

81 Exhibit B-65, Rebuttal Evidence to the COV et al. (Mr. Pander), p. 6; Exhibit B-81, BCUC IR1 2.2 Rebuttal COV.

82 Exhibit B-65, Rebuttal Evidence to COV et al. (Mr. Pander), pp. 4-6. RNG is not referenced in the opt-in Zero Carbon Step Code. FEI understands this is because FEI's current voluntary RNG service is a month-to-month service, rather than a permanent service. As such, FEI's voluntary RNG service does not provide an enforceable way for a building official to determine that buildings are using RNG at the time of design and construction.

83 Exhibit B-11, Application, pp. 31-32 and 98.

53. FEI has therefore designed the Renewable Gas Connections service to comply with government policy to eliminate carbon pollution from new homes, providing customers with a potential new compliance pathway to meet GHGi requirements should they elect to connect to the gas system.[84]

B. Key Attribute #1: Permanent for the Life of the Building

54. The first key attribute of the Renewable Gas Connections service is that it is permanent for the life of the building. This attribute is needed to provide an enforceable way for a building official to determine at the time of design and construction that a building will use RNG. As new building GHG emission regulations are set and enforced by local governments, all new home builders must demonstrate to the local government how their new home complies with applicable local regulations.[85] For the builder to claim the low carbon benefits of RNG, the builder must have a way to show that RNG will be used for the life of the building. FEI's existing voluntary RNG Program, however, does not provide the necessary comfort to building officials as it is an opt-in, month to-month service, meaning that customers can decide to start and stop taking RNG any time.[86] FEI's Renewable Gas Connections service is designed to remedy this and meet the permanency requirements necessary to show that RNG will be used by the building.

55. The permanence of the Renewable Gas Connections service will be embodied in the BCUC-approved rate schedules for the service which will require that all new residential connections will be served with "100 percent Renewable Gas on a permanent basis for the life of the premises that is exclusive to and mandatory for Permanent Connection Low Carbon Gas

---

84 Exhibit B-78, BCSEA IR1 40.5 Rebuttal.

85 Exhibit B-17, BCUC IR1 18.1.

86 Exhibit B-65, Rebuttal to CoV et al., A8 and A9; Exhibit B-78, BCSEA IR1 31.4 and 37.3 Rebuttal.

Service Customers".[87] The permanence is clearly reflected in FEI's proposed amendments to its General Terms and Conditions (GT&Cs)[88] and each rate schedule.[89]

56. The defining feature for the applicability of the Renewable Gas Connections service is the need for a new service line.[90] FEI retains in its customer information system the date upon which a service line is installed to connect a premises to FEI's distribution system. As such, in FEI's customer information system, all "Residential Premises" or "Eligible Commercial Premises"[91] with a new service line must receive the Renewable Gas Connections service. Once a Connections service is established for that premise, it will remain permanent for that premise, and the initial or subsequent customer requesting gas service at that premise will only be able to be served with 100 percent RNG.[92] These amendments to FEI's tariffs to implement the Renewable Gas Connections service provide a high level of certainty of the service's permanence for the life of the building.[93]

C. Key Attribute #2: 100 Percent Renewable Gas

57. The second key attribute of the Renewable Gas Connections service is that it will provide 100 percent RNG to the customer. This key attribute is necessary because only 100 percent RNG will ensure that the service will comply with the Zero Carbon Step Code and the patchwork of building regulations across British Columbia.

---

87 The proposed amendments to the GT&Cs define "Permanent Connection Low Carbon Gas Service Customer" as "a Customer taking Gas Service for Residential Premises or Eligible Commercial Premises that are connected to the FortisBC Energy System by a service line installed on or after the effective date of the Permanent Connection Low Carbon Gas Service and whose Gas Service must consist of 100 percent Renewable Gas on a permanent basis for the life of the premises served."

88 Exhibit B-17, BCUC IR1 20.1.

89 Exhibit B-17, BCUC IR1 20.1.

90 Exhibit B-17, BCUC IR1 18.2.

91 As defined in FEI's proposed GT&Cs in Exhibit B-11, Appendix D-2.

92 Exhibit B-17, BCUC IR1 20.1.

93 Exhibit B-65, Rebuttal Evidence to CoV et al. (Mr. Pander), pp. 2-3.

(a) Lower Than 100 Percent RNG Would Not Be Feasible

58. A service that provides less than 100 percent RNG would not be feasible for the following three key reasons.[94]

59. First, less than 100 percent RNG will not meet all local government and municipal requirements. Table A-8 in Appendix A to the Application shows the GHGi levels with conventional natural gas and the estimated Renewable Gas percentage required to meet the Zero Carbon Step Code and GHGi targets of 3kg CO2e/m2 and 1kg CO2e/m2 for a sample of 201 residential homes, assuming both gas space and water heating. As shown in the last four columns in Table A-8, the percent of RNG required to meet the GHGi target of either a target of 3kg CO2e/m2/year or 1kg CO2e/m2/year would vary. For example, in this sample of homes, the required blend of RNG can range from between 86 percent to 100 percent in order to achieve a 1kg CO2e/m2/year level. This variability makes it extremely difficult to establish the precise percentage of RNG required to meet a given local government regulation at the design stage. Further, these requirements can be updated at any time, creating further uncertainty.[95]

60. A lower blend of RNG would also create uncertainty with compliance with the Zero Carbon Step Code, which will require progressively higher blends of RNG to meet the GHGi targets mandated by EL-2, EL-3 and EL-4.[96] The GHGi metrics used in the Step Code are generally consistent with the types of GHGi metrics that were being adopted by local governments as described above. In particular, a 100 percent RNG service is required to meet the Step Code's higher levels, just as it would be required to meet all the metrics being adopted by local governments.[97] This means that RNG at less than 100 percent would fail to provide a universal solution for all new residential construction.

---

94 Exhibit B-11, Application, pp. 93-94.

95 Exhibit B-11, Application, pp. 93-94.

96 Exhibit B-68, Rebuttal Evidence to CoV et al. (Mr. Strunk), A4 (p. 3).

97 Exhibit B-81, BCUC IR1 2.2 and 2.4 Rebuttal CoV. Also see: Exhibit B-78, BCSEA IR1 31.1 Rebuttal and Exhibit B-72, CEC IR1 3.3 Rebuttal CoV.

61. Second, with less than 100 percent RNG, the complexity of regulations would make compliance uncertain. The complexity of regulations is driven by several factors, including: (a) varying requirements based on floor space; (b) the combination of GHGi standards and complex Step Code or whole home performance requirements; (c) the regional differences and climate zones in BC and the impact they have on home performance; and (d) a building's air tightness or air leakage from unintended gaps or cracks, which cannot be measured until the building's construction is complete.[98]

62. Third, service at less than 100 percent RNG would introduce risk to the builder or developer, which would be likely to deter use of the service. New home builders must demonstrate to the local government how their new home complies with applicable local regulations, with a building energy and emissions model developed that calculates a building's energy consumption, the emissions associated with each energy's function in the building, and the size of the building.[99] As there are multiple factors determining whether or not a new home can comply with local building GHG emissions regulations, any service based on less than 100 percent RNG would introduce a risk to the builder that the building would not meet the required GHGi target. This uncertainty and risk would likely be sufficient for builders to not include gas service in their projects.[100]

63. Ultimately, the only way to ensure that a building served by the gas system will meet local government emissions reduction obligations pre-construction, both during construction and post construction, is for the gas service to be comprised of 100 percent RNG. With 100 percent RNG, a new home builder will be able to more easily demonstrate compliance with local government requirements. The allocation of 100 percent RNG is therefore a key attribute of the Renewable Gas Connections service.

---

98 Exhibit B-11, Application, pp. 93-94.

99 Exhibit B-17, BCUC IR1 18.1.

100 Exhibit B-11, Application, p. 94.

(b) The Ability to Select a Percentage of RNG is Not Feasible

64. For similar reasons, a service where the customer elects the RNG percentage is also not feasible. The lack of uniformity in regulations, the complexity and uncertainty regarding how to meet GHGi targets, and uncertainty regarding enforcement of the regulations, all make a service with variable RNG percentages not feasible. Without a single RNG percentage, homebuilders will contend with difficulties and uncertainty when trying to satisfy local government GHGi targets. Further, homebuilders will not know in advance of performing at least one, and perhaps several, costly modeling iterations, what percentage of RNG will be required when applied to the particular home, located in a particular geographic/climatic location, with its particular size, shape, orientation, and specific window to wall ratios. The only gas-based option that ensures compliance across British Columbia is an offering using a mandatory 100 percent Renewable Gas.[101]

D. Key Attribute #3: Available to All New Residential Connections

65. The third key attribute of the Renewable Gas Connections service is that it will apply to all new residential connections across FEI's service territory, whether or not the municipal or local government has adopted GHGi limits on new residential construction.

66. FEI considered but rejected the option of only providing the Renewable Gas Connections service to municipalities that implemented restricted policies for new residential construction. This was primarily due to the administrative burden and complexity of such an approach. FEI explains:[102]

> It would be administratively burdensome and complex to have the proportion of Renewable Gas provided to new residential customers vary depending on the particular municipality in which they are located. As noted in Section 3, regulations and policies vary by municipality and specific building projects. Trying to create an offering specific to each municipality and each building project is not possible because of the wide variation in the wording of regulations and approaches to GHG reduction adopted by each municipality. The regional differences and climate zones among cities in British Columbia may further complicate matters, as the

---

101 Exhibit B-17, BCUC IR1 18.1.

102 Exhibit B-11, Application, p. 95.

> geographic differences can alter the Renewable Gas required for homes to meet applicable standard. Further, as noted above, these regulations can and do change with little notice, requiring FEI to regularly update tariffs and constantly change messaging to its employees that work with customers and with the customers themselves. This will lead to outdated information and customer expectations not being met. A single, common percentage of Renewable Gas delivered to all residential new connections is the most practical solution to implement.

67. The proposed Renewable Gas Connections service meets the current emission requirements for Vancouver and for all other local governments, as well as the highest level of the Zero Carbon Step Code. A single offering creates certainty in the market for builders/developers without having to differentiate the requirements by municipal boundary and is easy to understand (including for FEI's customers).[103] A single offering for all New Residential Connections is therefore a key attribute of the service.

E. Key Attribute #4: Rolled-In Cost Ratemaking is Just and Reasonable

68. The fourth key attribute of the Renewable Gas Connections service is rolled-in pricing. FEI proposes to charge Connections customers a rolled-in cost of service, such that they pay the same effective rate for their gas service as existing customers in similar rate schedules. As supported by the expert opinion of Mr. Reed of Concentric, FEI's rolled-in pricing proposal is consistent with the Bonbright ratemaking principles and regulatory practices, will not result in unjust discrimination, and supports economic efficiency. As the Renewable Gas Connections service is designed to be a low carbon gas service that meets the requirements of government policy, the cost of the RNG to meet these requirements for new residential construction is an environmental compliance cost, and should not be the sole burden of new residential customers, but should be shared amongst all customers in the same way that FEI's other compliance costs are shared.[104] The alternative, where new residential customers would pay a higher rate for gas service than their neighbours based on when they connected to the system is fundamentally unfair, as demonstrated by the Canadian Energy Regulator (CER)'s consistent rejection of vintaged pricing schemes.[105]

---

[103] Exhibit B-42, BCUC IR2 48.2.1.

[104] Exhibit B-11, Application, p. 100.

[105] Exhibit B-17, BCUC IR1 13.2.

69. FEI's submissions below are organized around the following points:

- FEI's proposed rate for the Renewable Gas Connections service is:
    a) Consistent with ratemaking principles and regulatory practices;
    b) Not unduly discriminatory; and
    c) Promotes economic efficiency.
- Mr. Reed has thoroughly rebutted the evidence of Mr. Kurt G. Strunk.
- The playing field will remain firmly tilted in favour of electric options with the approval of the Renewable Gas Connections service.
- Alternative pricing options are not viable.

(a) Proposed Rate is Consistent with Ratemaking Principles and Regulatory Practices, Not Unduly Discriminatory, and Promotes Economic Efficiency

70. As explained in Part One, Section A of this Final Submission, FEI's proposed rates are supported by the independent, expert opinion of Mr. John Reed of Concentric. In summary, in Mr. Reed's opinion:[106]

> FEI has proposed to set the rate for customers under both the new Renewable Gas Blend service and the Renewable Gas Connections service to reflect the rolled-in or average cost of providing those services. Rolled-in or average cost ratemaking for these services: (1) is cost-based and consistent with longstanding ratemaking principles and regulatory, including BCUC, practices; (2) will not result in unjust discrimination and is distinguishable from the just discrimination created by the Voluntary Renewable Gas service as discussed further below; and (3) supports economic efficiency including the efficient use of existing infrastructure to the benefit of all customers.

71. FEI submits that Mr. Reed's opinion is well-grounded in ratemaking principles and regulatory practice and is compelling.

---

[106] Exhibit B-17, BCUC IR1 13.2.

Proposed Rate is Consistent with Ratemaking Principles and Regulatory Practices

72. FEI's proposal to charge the rolled-in cost of service is consistent with ratemaking principles and regulatory practices. Mr. Reed explains as follows:[107]

> ***Rolled-In Cost Ratemaking***
>
> Bonbright defines the fair apportionment of costs as simply fairness in the way costs are apportioned to customers which then "invokes the principle that the burden of meeting total revenue requirements must be distributed fairly among the beneficiaries of the service." Regulators, including the BCUC and other Canadian regulators, have applied this principle in a manner that seeks to have cost responsibility follow cost causation. This leads to the critical question as to whether new customers on a system are responsible for new costs, or whether it is the aggregate level of service that causes the aggregate level of costs. In addressing this question, regulators across North America make much greater use of rolled-in or average costs than stand-alone or incremental costs in utility service ratemaking where the "new" and "old" customers are being provided with a service that is the same or nearly the same. In fact, as noted earlier, average cost has been the dominant form of pricing in North America, even when "new" costs have significantly exceeded "old" costs, as is the case with the cost difference between RNG and conventional natural gas.
>
> The suggestion that Renewable Gas Connection customers should pay stand-alone or incremental costs for gas supply essentially ignores the joint effect of applying Bonbright's fair apportionment principle and industry practice with regard to what constitutes unjust discrimination. Under the incremental cost theory, a customer who built a house and initiated service last year would pay much less for gas supply than a customer who built a house next year even where the two customers had identical usage characteristics. This, despite the fact that both houses are served by the same gas system, use the same amount of gas, and physically receive the same blend of natural gas containing Renewable Gas. In this situation the "newer" customer did nothing to impose a different level of costs on the system. Thus, it makes no sense to establish different rates for that customer; rather, that customer's cost of gas should be averaged with existing customers, just as would be true for new and existing transmission and distribution costs of serving the two customers. In an evaluation of cost causation and cost responsibility, it is important to recognize that every customer was a new customer when they joined the system, and they were not charged the "new" costs for the energy commodity, delivery or administrative functions they were "causing" when initiating service. Taken to its natural extension, if this logic were sound, FEI's residential delivery rates would need to be adjusted to remove the

[107] Exhibit B-17, BCUC IR1 13.2. Footnotes excluded.

Service Line Cost Allowance for new residential services, and New Residential Connections would be made to pay the full incremental cost of their delivery service. The same approach could be applied to main expansions and extensions. Such a change would be highly inconsistent with regulatory practice and policy. Industry practice and FEI's existing tariffs support average cost pricing for both commodity and delivery service.

The National Energy Board (NEB) explicitly recognized the benefits of average cost pricing:

> In considering cost causation as an approach to making tolls just and reasonable, the Board notes that in an integrated system as complex as TransCanada's, it is not always practical to determine the precise costs caused by the provision of a specific service. Accordingly, modifications to a strict cost-causation approach to tollmaking are necessary. One such example is the use of toll zones to deal with a multitude of delivery points within a geographical region. If tolled on a strict cost-causation basis, for example point-to-point, a multiplicity of price differences within each region would result.

A BCUC decision which supports average cost pricing is the BCUC Decision and Order G-245-20 approving FEI's proposal to amalgamate its natural gas and Revelstoke propane supply portfolios where the BCUC found that the public interest was better served from a policy perspective by the equalization of rates despite some interveners arguing that FEI's proposal violated Bonbright's cost causation principles. The BCUC summarized the BC Sustainable Energy Association's (BCSEA) arguments as follows:

> BCSEA considers a number of Bonbright's principles of public utility rates and argues that "Bonbright Principle 2: fair apportionment of costs among customers" supports the status quo, since Revelstoke customers cause propane commodity costs and natural gas customers cause natural gas costs. BCSEA argues to achieve fairness in cost allocation, it is an established principle that those "causing costs" should bear the responsibility for paying said costs.

Nevertheless, the BCUC rejected this argument and stated that it "judges this effect by its degree:"

> The Panel has given full consideration to the Application and the relevance of Bonbright's principles regarding public utility rates. In the Panel's view, the arguments presented do not suggest that FEI's proposal would be inconsistent with those principles. FEI's proposal is considered in keeping with these principles by

> equalizing rates fairly across its service territory. FEI's proposal brings about a balanced allocation of costs, improves price stability and reduces the burden on Revelstoke customers by means of a proposal which minimizes negative effects and allows for alternatives in the future.
>
> The Panel accepts that FEI's proposal may suggest discrimination, given the effect on natural gas users' costs. However, the Panel judges this effect by its degree and how overall fairness in the apportionment of costs fits within the public interest framework. In consequence, the Panel does not find that FEI's proposal is unduly discriminatory or that the principles or price signals are critically compromised.

The BCUC's decision that made FEI's Biomethane Program permanent also supports average cost pricing and is an example of the socialization of costs which benefit all customers. Under that existing program, FEI procures RNG based on its forecasted need and, to the extent there is excess inventory, the costs associated are treated in two ways. The portion of the costs equal to the prevailing Biomethane Energy Recovery Charge (BERC) is transferred to the Midstream Cost Reconciliation Account (MCRA) and recovered from FEI's sales customers. The remainder, namely, the difference between the total RNG cost and the BERC, is deferred and recovered from all non-bypass FEI customers through a rate rider.

The use of rolled-in or average cost pricing for the proposed Renewable Gas Program is further supported by a recognition of the fact that new customers, who will be served under the Renewable Gas Connections service, did not "cause" the need for utilization of higher-cost Renewable Gas supplies. This need was caused by governmental policy which seeks to limit the use of conventional gas supplies in order to achieve lower carbon emissions. The benefit of lower carbon emissions is not limited to "new" customers, or even to FEI's customers. This benefit is understood to be for all residents of BC, and in fact for the entirety of the global ecosphere. To assign these costs to only new FEI customers would be a gross mismatch between cost causation and cost responsibility. The costs to utilities of achieving compliance with governmental objectives are best socialized across the entire set of utility customers, rather than burdening a small subset of customers with the costs of providing a benefit to all.

Proposed Rate is Not Unduly Discriminatory

73. FEI submits that the proposed rate for the Renewable Gas Connections service is neither unduly discriminatory nor unduly deferential. Mr. Reed describes the principle against undue discrimination, as follows:[108]

> A prohibition on undue discrimination is another foundational principle of ratemaking, and like cost causation, is based on fairness. The principle aims to curtail a monopolist from exercising market power to extract higher prices for the same service from different groups of customers, a practice that would otherwise be undercut in a competitive market. Similarly situated customers should be treated similarly, and rate differentials should be based on cost differentials. The standard expressly acknowledges that there will be some level of discrimination inherent in the regulated ratemaking process and, therefore, prohibits only undue levels. The *Utilities Commission Act* ("UCA") proscribes a utility from making, demanding or receiving an unduly discriminatory rate under Section 59(1)(a) and assigns to the BCUC as "the sole judge" under Section (4) to determine whether any "undue discrimination" has actually occurred. These provisions taken together form a functional structure to allow the BCUC to apply ratemaking techniques to check for unfair levels of rate differences between customer classes by, for example, ensuring the development of a cost of service allocation study to achieve comparable rates of return on a class-by-class basis or returns within an acceptable range. This process helps ensure that each class of customers will pay the costs for the provision of each's particular service.

74. As explained by Mr. Reed, charging Renewable Gas Connections customers a higher rate would be a form of ratemaking referred to as "vintaging" which has consistently been rejected by the Canadian Energy Regulator (CER) and its predecessor National Energy Board (NEB) as being unjustly discriminatory, as it would charge a different rate for similarly situated customers based on when they started to take service.[109] Charging a rolled-in rate is consistent with the fact that Renewable Gas Connections customers would be similarly situated to FEI's existing residential customers, and the increased commodity costs of RNG are caused by government policy, not the new residential customers.

---

[108] Exhibit B-68, Rebuttal Evidence to CoV et al. (Mr. Strunk), Appendix A (Rebuttal Evidence of Mr. Reed), A.10. Footnote omitted.

[109] Exhibit B-68, Rebuttal Evidence to CoV et al. (Mr. Strunk), Appendix A (Rebuttal Evidence of Mr. Reed), pp. 18-23.

75. Mr. Reed's opinion is as follows:[110]

Just v. Unjust Discrimination

Charging a different, higher rate for Renewable Gas Connections service than for other sales customer simply because of when the customer joined FEI's system would be inconsistent with long-standing regulatory policy and would result in unjust discrimination with regard to new residential customers. Voluntary Renewable Gas service customers, however, may be reasonably charged the higher, stand-alone cost of Renewable Gas because, unlike Renewable Gas Connections customers, they have made a choice to pay more for Renewable Gas even though the rolled-in average cost services were made available to them.

Establishing separate rates for customers based on the date service was initiated represents a vintaging approach that other regulators have explicitly rejected. Such an approach is illogical because it charges similarly situated customers different rates on the basis of when they joined the system. Utilities often apply the same rate to new and existing customers, even though it typically costs different amounts to serve new vs. existing customers due to factors such as inflation, technological change, location, usage characteristics, etc. In spite of these cost differences, regulators adhere to the principle of no unjust discrimination, and it has been determined that discriminating based on vintage of service initiation is unjust.

For example, the NEB held that existing customer have "no acquired rights" to the lower, embedded cost of the existing system.

> Some parties argued that those who had paid for the existing facilities, in the sense of having been a customer in the past, should be entitled to continue using them without being affected by the addition of new facilities to serve new customers. Because new facilities tend to be more costly than older plant, this entitlement would in reality provide existing shippers with an acquired right to enjoy the use of older facilities at their lower embedded cost. Otherwise, they claim they would be required to cross-subsidize new customers. This theme underpinned a good deal of the arguments presented to the Board in these proceedings. Thus, various approaches were proposed to protect the existing shippers, including the separation of different rate bases for different vintages of shippers based on nothing more than seniority.
>
> While the Board could well understand the motives of some existing shippers in protecting their own interests, acceptance by

[110] Exhibit B-17, BCUC IR1 13.2. Footnotes excluded.

> the Board of the notion of acquired rights would inevitably mean that past tolls were not just and reasonable in the sense of payment for services rendered. Such a notion would require that past tolls somehow also included payment for an option for the future use of the pipeline on preferential terms. Clearly this is not the case. In the Board's view, the payment of tolls in the past conferred no benefit on tollpayers beyond the provision of services at that time. The Board does not equate those who paid for a service with those who paid for the facilities. Accordingly, the Board rejects the notion that shippers who have used the pipeline in the past are somehow entitled to continue using the existing facilities without being affected by new circumstances.

Similarly, in GH-5-89, the NEB held:

> The Board considers that the effect of alternatives to the current toll design methodology which were presented by intervenors is to shield existing shippers from some or all of the additional costs associated with the new facilities.
>
> In this regard, the Board agrees with those who submitted that the payment of tolls confers no future benefit on tollpayers beyond the provision of service. In other words, previous tollpayers have no acquired rights. Therefore, they cannot expect to be exempted from a toll increase simply because they have paid tolls in the past. In this proceeding parties have not laid claim to any acquired rights, per se. Rather, the proponents of alternative toll methodologies have asserted that the sheer size and cost of the proposed facilities together with the impact on tolls and the nature of the market to be served, are unique circumstances which justify some level of toll protection for the existing shippers. While factors such as the size, cost or impact on tolls of the proposed facilities may be relevant to the Board's decision on whether to authorize the construction of facilities, they do not in this case justify discriminating among shippers on the basis of when they commenced, or will commence, paying tolls and receiving service.
>
> Both the CPA proposal for a capital contribution and the Consumers' proposal for a demand surcharge make a distinction based on vintages of shippers. This implies the existence of certain rights for existing shippers which, in the Board's view, they do not have. In addition, the requirement of a capital contribution or a demand surcharge would serve as a barrier to entry for new participants in the marketplace, would limit competition and would give existing shippers an undue competitive advantage.

More recently, the NEB affirmed this policy in RH-1-2007:

> In the GH-2-87 and GH-5-89 Decisions, the Board expressed the view that the payment of tolls in the past conferred no benefit on tollpayers beyond the provision of services at that time. In other words, previous tollpayers have no acquired rights. The Board stated that it does not equate those who paid for a service with those who paid for the facilities. Accordingly, the Board rejected the notion that shippers who have used the pipeline in the past are somehow entitled to continue using the existing facilities without being affected by new circumstances. They cannot be exempted from a toll increase simply because they paid tolls in the past.

Underlying the NEB's approved policy as described above is the tacit recognition that a vintage toll-based approach would effectively result in a transfer of wealth between existing and new customers. This argument was put forth in GH-5-89 by Alberta/Northeast Gas Export Project:

> The vintaging of tolls is tantamount to creating wealth, in the form of economically favored tolls, and distributing that wealth to existing shippers.

Vintage pricing, as opposed to rolled-in pricing, for gas supply service between existing customers and new residential customers would promote a policy that would result in a similar pattern of creating wealth entitlements. For instance, a newly built residential dwelling that initiated service prior to the proposed start date of this program would be charged for its gas supply based on the average cost of gas supplies utilized for the Renewable Gas Blend service. An identical newly built residential dwelling that initiated service after the proposed start date of this service would, however, pay a much higher gas supply cost for the sole reason that a new connection must, as a matter of policy, be accommodated through 100 percent Renewable Gas supply. In this instance, there are no delivery-related cost of service differences between the two customers, nor are there any functional service differences with respect to the supply of natural gas. Instead, the difference between the two otherwise identical customers is a function solely of how they are treated for purposes of FEI's supply mix, itself a function of provincial and municipal policy. Requiring the newer customer to bear the cost of this policy through the use of vintage pricing would effectively result in a transfer of wealth to the older customer. At a minimum, the customer who initiated service prior to the proposed start date of this program would pay a lower gas supply cost on a going forward basis for no other reason except that they initiated their service before the start date of the proposed program. All else equal, a prospective buyer of the two identical homes would value the former more highly if only because their ongoing gas utility bills in that home would be substantially lower. This differential in the value of the two homes would represent the creation

of wealth for the owners of homes entitled to Renewable Gas Blend service, due solely to the adoption of differentiated vintaged pricing for the Renewable Gas Blend service and for the Renewable Gas Connections service. Creating such wealth entitlements through ratemaking, when the incremental cost of serving a "new" customer is the product of public policy, not the product of differences in the costs imposed by a "new" customer as compared to an "existing" customer, does not comport with the establishment of just and reasonable rates.

The Voluntary Renewable Gas service, however, is appropriately priced differently than standard Renewable Gas Blend or Connections service. Customers who voluntarily choose to purchase up to 100 percent Renewable Gas are charged the stand-alone cost of Renewable Gas (priced at a $7/GJ differential) for that premium service. This distinction is well-supported in ratemaking principles. Charging a different price for a different service is just discrimination where that service is distinguishable from the default service, and where the value of that service to the customer is materially different. In FEI's proposal, new customers joining the natural gas system are not provided a distinguishable service as compared to the service provided to existing customers. By contrast, dedicated Voluntary Renewable Gas service customers voluntarily pay FEI to acquire fully-decarbonized supply, which is distinguishable both as a matter of cost causation and value. Therefore, charging the directly assigned stand alone cost to those customers is "just discrimination".

Furthermore, customers who choose to participate in the Voluntary Renewable Gas service have recourse to their otherwise applicable gas supply service provided through FEI's Renewable Gas Blend service. The ability of Voluntary Renewable Gas participants to switch back to this traditional cost-based rate that is just, reasonable, and non-discriminatory renders the different pricing of the Voluntary Renewable Gas program itself just, reasonable, and non-discriminatory. This is consistent with FERC's ratemaking treatment of voluntary agreements for gas capacity services in the United States. FERC has a well-established Negotiated Rate Policy that governs the prices charged to interstate shippers by gas pipelines for pipeline capacity and other services. Under this policy, a rate voluntarily agreed to between a gas pipeline and a shipper can deviate from traditional cost of service as long as the shipper has recourse to a rate based on the traditional cost of service:

> The Commission believes that negotiated/recourse service programs could be a viable way of achieving flexible, efficient pricing when market-based rates are not appropriate. Negotiating different rates and service terms for individual shippers could result in wide flexibility in service offerings including individually tailored seasonal service and rates, short-term services, or special rates for more flexible terms and conditions. Greater rate flexibility has previously been tied to a showing that a pipeline lacks market

> power. Under this method, however, the availability of a recourse service would prevent pipelines from exercising market power by assuring that the customer can fall back to cost-based, traditional service if the pipeline unilaterally demands excessive prices or withholds service. Thus, the recourse rate mitigates market power.

FERC's ratemaking policy behind allowing price discrimination for alternate, negotiated service arrangements is directly analogous to the circumstances accompanying a customer's choice of taking FEI's Voluntary Renewable Gas service. These customers have recourse to other services priced on a traditional non-discriminatory basis but prefer the alternate service and its differentiated service terms. Offering such an alternate service on differentiated pricing terms does not constitute unjust discrimination.

Proposed Rate Promotes Economic Efficiency

76. FEI's proposed rates would also make the most efficient use of existing assets and are consistent with the principle of economic efficiency. Mr. Reed opines as follows:[111]

> As stated by Bonbright and many other ratemaking authorities, just and reasonable rates should send the proper price signals so that consumers can respond and make the most efficient use of the utility system and the resources provided by that utility. This includes making efficient use of existing infrastructure and other resources and avoiding wasteful or inappropriate use of the utility's product. However, as noted by Dr. Alfred Kahn, economically efficient price signals must be provided to all customers in order for the allocation of resources to be optimized. For example, it is not appropriate to attempt to send a marginal cost price signal to one set of "new" customers when others see their services being priced on embedded or average cost rates. Such an attempt to "optimize piecemeal" will not prove to be efficient, since existing customers are not being provided with the appropriate price signal to relinquish service that may be of relatively lower value, while new customers are required to cover the full incremental cost. Vintaged pricing, with new customers being priced at the stand-alone cost of new service and older customers being priced at embedded, average cost is a clear example of an inefficient set of price signals being sent.
>
> The Canadian Energy Regulator (CER) has previously recognized the importance of maximizing the utilization of existing infrastructure, even when it may be necessary to depart from strictly cost-based tolls:
>
> > The Board is of the view that, while the Dawn LTFP toll represents a departure from the cost-based/user-pay principle, economic

[111] Exhibit B-17, BCUC IR1 13.2. Footnotes omitted.

> efficiency will be promoted by Dawn LTFP service through increased system utilization and the net lowering of existing Mainline tolls.

(b) Mr. Reed Has Thoroughly Rebutted the Evidence of Mr. Strunk

77. Mr. Reed has also thoroughly rebutted the evidence of Mr. Kurt G. Strunk, filed jointly by municipalities[112] and Lulu Island Energy Company Ltd., who takes the view that FEI's proposed pricing is unduly discriminatory.[113] While FEI will not repeat all of Mr. Reed's Rebuttal Evidence here, Mr. Reed summarized the main points of his Rebuttal Evidence as follows:[114]

- First, contrary to Mr. Strunk's assertions, Connections customers are not receiving a different product than other existing customers, as there aren't different systems used to deliver gas to the new customers, the supply delivered is physically the same product[115] and the new customers certainly have not done anything to have caused far higher costs to be incurred. Connections customers do not require special meters, different service piping, new main material types or any other atypical upgrade to the delivery system in order to take service. As I discuss later, the RNG costs that FEI expects to incur are essentially a compliance cost that is the product of a change in environmental policy, not a change in cost drivers for any subset of customers. As such, and as would have been appropriate in the cases of, for example, changes in safety codes requiring the use of different pipe, or environmental regulations that would have required the installation of new environmental controls at a city-gate station, these costs are best treated as one which would be allocated to all sales customers on the system. The notion that new customers cause the need for new safer pipe, or new air quality controls, makes no sense, as does the notion that new customers cause the need for higher gas procurement costs that are occasioned by policy shifts.

- Second, Mr. Strunk is equally outside the norms of approved ratemaking standards when he suggests that Connections customers are the ones that benefit from the new service, as opposed to all customers, and that therefore the new customers should bear the responsibility for the higher gas costs. That view ignores the very nature of decarbonization programs, which are designed to reduce carbon emissions across the globe.

---

[112] These municipalities include: the City of Vancouver, the City of Richmond, the Metro Vancouver Regional District, the District of North Vancouver, the District of Saanich and the City of Victoria.

[113] Exhibit C7-5, Evidence of the CoV et al. (Kurt G. Strunk).

[114] Exhibit B-68, Rebuttal Evidence to CoV et al. (Mr. Strunk), Appendix A (Rebuttal Evidence of Mr. Reed), pp. 4-8.

[115] FEI agrees: see Exhibit B-78, BCSEA IR1 34.1 Rebuttal.

- Third, Mr. Strunk fails to properly evaluate the very important question as to whether his proposal for vintaged commodity rates would create unjust discrimination among new and old customers. In short, that proposal would violate almost every test for unjust discrimination. It must also be recognized that Mr. Strunk does not propose vintage differentiated rates for mains, service lines, meters or any other element of the distribution system, although these costs for new customers are also very different than for the pool of existing customers, and always have been. I suspect that Mr. Strunk realizes that a proposal to differentiate between old and new customers for distribution charges would put his proposal even further outside the range of accepted ratemaking practices.

- Fourth, Mr. Strunk completely misses the key considerations for when the use of incremental pricing will promote economic efficiency. Those requirements are that the same incremental cost economic price signal be sent to all customers – not just new ones – and that it also be the accepted form of pricing for the substitutable product offerings of competitors, which in this case would be electric utility service. None of those conditions are present in Mr. Strunk's proposal, and his proposal would not enhance economic efficiency in the least. Moreover, the BCUC considers social issues, including environmental policy, when evaluating the ratemaking principle of efficiency and its benefits. Mr. Strunk discusses consumption signals from his proposal but stops short of explaining how his approach will facilitate reaching decarbonization goals.

78. Consistent with Mr. Reed's opinion, FEI submits that Mr. Strunk's evidence should be rejected as it is inconsistent with key aspects of the Bonbright principles as applied by the BCUC. Mr. Strunk mischaracterizes the factual circumstances and suggests a form of ratemaking that would be fundamentally unjust and unduly discriminatory. Contrary to Mr. Strunk's position, the cost of the RNG to serve Renewable Gas Connections customers is a compliance cost which, consistent with other compliance costs incurred by FEI, are reasonably and appropriately shared amongst all customers. As stated by Mr. Reed:[116]

> The costs associated with RNG are best considered as an environmental compliance cost, which is no different than a safety compliance cost. If safety regulators required that new mains use a thicker walled pipe, or if environmental regulators required that new city-gate stations use new technologies for noise abatement, I find nothing in the principles of cost causation and cost responsibility

[116] Exhibit B-68, Rebuttal Evidence to CoV et al. (Mr. Strunk), Appendix A (Rebuttal Evidence of Mr. Reed), A.18 (p. 16).

> to conclude that it would be proper to charge only new customers for those costs. Such "new" costs have arisen frequently in the past decades and have always been rolled-in to existing cost pools. RNG costs are no different.

79. Therefore, it would be unjust to attribute the costs of decarbonizing FEI's gas service for new residential connections to new residential customers alone, especially when the benefit of that decarbonization is provided to all of the Province.

(c) Playing Field Would Remain Tilted Towards Electricity

80. The Renewable Gas Connections service will not contribute to an uneven playing field amongst low-carbon energy providers. In fact, the playing field is firmly and clearly tilted away from gas service including RNG in favour of electricity.

81. FEI conducted three different analyses in this proceeding that demonstrate that both gas and electric systems can provide clean, low carbon energy to customers for a similar cost.

- First, FEI conducted an analysis of various scenarios examining the impacts of: (1) higher and lower heat pump efficiencies; (2) whether the home is located in the BC Hydro or the FortisBC Inc. service territory; (3) the proportion of electricity consumption at both Tiers 1 and 2; and (4) the cost of RNG. The analysis considered a Low Bookend Scenario (heat pump for space and resistance for water heating) and High Bookend Scenario (heat pumps for space and water heating). In general, while RNG priced equivalently to conventional natural gas plus carbon tax provides an energy cost similar to that of the Low Bookend electrically heated home, it does not do so under the remaining conditions. The conclusion from this analysis is that pricing the Renewable Gas Connections service at the same rolled-in cost of gas, inclusive of RNG from the Renewable Gas Blend service, results in costs higher than an electric heated alternative on an NPV basis in nearly all cases. An RNG price higher than that proposed in the Application would make gas-based home heating more expensive than that of homes heated with electric heat pumps.[117]

- Second, FEI conducted an analysis in its Rebuttal Evidence based on the scenario put forward by Energy Futures Group (EFG) filed by the BC Sustainable Energy Association (BCSEA). This scenario is based the FEI's Low Bookend heat pump efficiency scenario in FEI's initial analysis and is based on 100 percent BC Hydro Tier 2 rates. The results showed broad cost parity between RNG and electricity costs. While the combined capital and operating cost to the customer appears to

[117] Exhibit B-17, BCUC IR1 13.7.

be somewhat more favourable for the gas customer, the difference is not large, and the electricity analysis does not factor in BC Hydro's Step 1 rates, nor do the capital costs account for differential tax treatment or incentives.[118] This finding is consistent with the response to the first analysis above which indicates that the NPV of the heating costs for the home with RNG priced equivalent to conventional natural gas is broadly similar to the heating costs of a home using electric heat pumps.

- Third, in response to BCUC IRs, FEI conducted a third NPV analysis which showed similar results. As shown in the table below, the rolled-in RNG pricing option is higher than the electric scenarios, except in the Low Bookend scenario where 75 or 100 percent of electricity is at BC Hydro's Tier 2 rates.[119]

					BC Hydro Electricity Rates		
Scenario	Description	Heat pump efficiency	Water heater efficiency	RNG priced @ NG price	50% Tier 1 50% Tier 2	25% Tier 1 75% Tier 2	0% Tier 1 100% Tier 2
1	Low bookend	200%	100%	$36,784	$ 36,029	$ 37,775	$ 39,521
2	High bookend	272%	230%	$36,784	$ 33,103	$ 34,215	$ 35,326

82. However, even assuming cost parity, the playing field is firmly tilted in favour of electricity and will remain so with the approval of the Renewable Gas Connections service. This is largely due to the significant rebates and subsidies available, such as the following:[120]

- BC Hydro, the provincial government and the federal government offer significant subsidies and incentives to customers installing electric heat pumps, which are much greater than the relatively modest incentives offered by FEI on certain high-efficiency furnaces and boilers. For example, the BC Hydro website currently indicates that a potential rebate of up to $11,000 is available for installation of electric heat pumps.

- To further incentivize the use of electric heating, the provincial government increased the PST on gas appliances from 7 percent to 12 percent, while removing the PST on heat pumps.

- BC Hydro's launch of an extensive marketing effort to advertise its service based on these incentives and subsidies to among other things convert from natural gas to heat pumps or replace gas appliances with electric

[118] Exhibit B-62, Rebuttal Evidence to BCSEA, p. 6.

[119] Exhibit B-19, BCSEA IR1 2.4.

[120] Exhibit B-17, BCUC IR1 17.1.

appliances. By contrast, while FEI is able to advertise its services, the provincial government has not made funds available to emphasize that Renewable Gas is a viable alternative low carbon solution.

- While Renewable Gas forms part of the CleanBC Roadmap, the provincial government does not subsidize or incentivize outcomes consistent with the increased reliance on Renewable Gas in the future.

- As outlined in Section 3.5 of the Application, local government policies, bylaws and regulations have changed to favour electric-only energy solutions. These local government measures were enacted with relative haste, departing from the typical building code adoption process whereby new codes are implemented after sufficient time has elapsed to allow the market time to adapt and provide compliant solutions.

- BC Hydro, the entity that provides electricity to most FEI customers, is a crown utility and as such is owned by the government and people of British Columbia. There are significant advantages inherent in this structure that do not inure to FEI. This further contributes to the unlevel playing field to the benefit of BC Hydro. BC Hydro, with its Crown status, has access to a provincial funding backstop that it sometimes uses to recover costs, keep its rates low and minimize its borrowing costs. The provincial government's 2019 decision to write-off BC Hydro's rate smoothing deferral account is one recent example of BC Hydro being able to utilize taxpayers to cover costs. On February 14, 2019, the provincial government issued a news release stating that… "as part of transitioning to enhanced oversight, government has accepted a recommendation from the review for BC Hydro to stop using the rate-smoothing regulatory account and to write off its balance to zero in 2018-19. This will limit rate increases and relieve ratepayers of the burden of directly paying off $1.1 billion in deferred costs over the next five years."

83. Recent developments which further tilt the playing field in favour of electricity include:

- The amendments to the DSM Regulation[121] which significantly curtail FEI's ability to offer incentives for natural gas space and water heating equipment with efficiencies less than 100 percent.

- The opt-in Zero Carbon Step Code which provides options for municipalities to restrict natural gas in new residential construction.

[121] Exhibit B-19, BCSEA IR1 38.4.

- Despite FEI's ability to store gas, in order to obtain carbon tax refunds for its low carbon biomethane, FEI must match RNG supply and demand by acquiring and supplying RNG to its customers within the same month.

84. Therefore, FEI's proposed Renewable Gas Connections service will not contribute to an uneven playing field, which remains heavily tilted in favour of electricity.

(d) Higher Pricing Options Are Not Viable for the Service as Designed

85. The various alternative pricing proposals suggested for the Renewable Gas Connections service over the course of this proceeding are not viable given the attributes of the Connections service as proposed, i.e., mandatory 100% RNG for all new residential connections across FEI's service territory.

86. The two key alternative pricing options considered through the IR process were charging the average RNG acquisition cost or a market-based rate such as the current price of electricity. FEI submits that neither of these options are viable for the service, and each perform worse than its proposed rolled-in pricing when considered in the context of ratemaking principles. Concentric provided the following comparison of FEI's proposed pricing to pricing based on average RNG acquisition costs and a market-based rate, which illustrates how FEI's proposed pricing is superior:[122]

> With regard to the requested comparison table, Concentric assumes that column 3 **"Cost-based rate-setting mechanism: weighted average RG supply cost"** means that Renewable Gas Connections service would be charged at a rate equal to the marginal cost of Renewable Gas and that existing customers would have vintaged pricing. Concentric assumes that column 4 "**Market-based rate setting mechanism: equal to the lowest-cost alternative"** means that Renewable Gas Connections service would be priced at the cost of electricity. Please refer to the response to BCUC IR1 13.7, which shows that Renewable Gas should likely be priced at a discount to be roughly equal to the cost of electricity considering the relative efficiencies of the equipment in market today. In addition, the "market-based rate setting mechanism" poses numerous practical challenges including establishing the electric cost benchmark and updating that benchmark.
>
> The requested comparison of these hypothetical alternatives to FEI's proposal is provided below.

[122] Exhibit B-17, BCUC IR1 16.2. Emphasis in original.

	FEI's proposed LCG Charge: CCRC + carbon tax ($/GJ)	Cost-based rate-setting mechanism: weighted average RG supply cost	Market-based rate setting mechanism: equal to the lowest-cost alternative
	Bonbright Criteria		
1. Recovery of the revenue requirement	√	√	Possibly
2. Fair apportionment of costs	√	N	N
3. Efficient price signals	√	N	N
4. Customer understanding and acceptance	√	N	Possibly
5. Practical and cost-effective	√	√	N
6. Rate stability	√	√	√
7. Revenue stability	√	N	N
8. Avoid undue discrimination	√	N	N
	Additional Criteria		
9. Maximizing revenues from the RG Program	√	N	N
10. Minimizing cross-subsidization from FEI sales customers	√	N	N
11. Ability to attract new residential customers	√	N	Possibly
12. Keeping rates affordable for all ratepayers	√	N	Possibly
13. Meeting Government policy	√	√	√

87. Concentric further explained why a pricing proposal which results in a higher price for Renewable Gas Connections customers compared to existing residential customers would be less in accord with ratemaking principles, as follows:

> This question suggests that pricing higher than the proposed rolled-in rate for gas supply might be considered for the Renewable Gas Connections service. As discussed in the response to BCUC IR1 13.2, the proposed rolled-in rate is consistent with long-standing ratemaking principles including recovering the revenue requirement, the fair apportionment of costs, sending efficient price

> signals, and avoiding undue discrimination, among others. There are no delivery-related cost of service differences between the new residential customers eligible for the Renewable Gas Connections service versus existing customers, nor are there any functional service differences with respect to the supply of natural gas. Instead, the difference between the two otherwise identical customers is a function solely of how they are treated for purposes of FEI's supply mix, itself a function of policy. Requiring the newer customer to bear the cost of this policy through the use of vintage pricing would effectively result in a transfer of wealth to the older customer, in conflict with established regulatory policy. It is not necessary to perform price elasticity analysis in order to establish an equitable rate. [123]
>
> If FEI were to price the Renewable Gas Connections service at a higher price than proposed in the Application, the offering would: (1) not offer customers a viable alternative to electric heat; (2) be in conflict with long-standing ratemaking principles; (3) be discriminatory towards new residential customers; and (4) ultimately be harmful to all customers by not using existing infrastructure in an economically efficient manner. Please refer to the responses to BCUC IR1 13.2 and 1 16.2.[124]
>
> In addition, as discussed in the response to BCUC IR1 13.2, pricing the Renewable Gas Connections service higher than that proposed in the Application would violate long-standing ratemaking principles and result in unjust discrimination against Renewable Gas Connections customers. New customers, who will be served under the Renewable Gas Connections service, did not "cause" the need for utilization of higher-cost Renewable Gas supplies. This need was caused by governmental policy which seeks to limit the use of conventional gas supplies in order to achieve lower carbon emissions. The benefit of lower carbon emissions is not limited to "new" customers, or even to FEI's customers. This benefit is understood to be for all residents of BC, and in fact for the entirety of the global ecosphere. To assign these costs to only new FEI customers would be a gross mismatch between cost causation and cost responsibility.[125]

88. Therefore, FEI submits that it has proposed a just and reasonable pricing for its Renewable Gas Connections service that is more aligned with ratemaking principles than the alternatives.

89. Furthermore, as FEI has designed the Connections service to be mandatory 100% RNG for all new residential connections across FEI's entire service territory, higher pricing alternatives for

---

[123] Exhibit B-17, BCUC IR1 13.3.2.

[124] Exhibit B-17, BCUC IR1 13.4.

[125] Exhibit B-17, BCUC IR1 13.7.

the Connections service would not meet customer needs and would in fact have a negative impact on customers. This is because, at a higher price such as the average cost of RNG, FEI expects homebuilders will strongly, if not exclusively, favour electricity unless there were a significant concern about the electric system capacity in a specific location. [126] In short, a rate at the average cost of RNG would make the Connections service not viable for residential customers, even those who are not yet subject to GHGi targets in their jurisdiction. Consequently, without a viable service offering for new residential connections, FEI's rates would increase for all customers due to decreasing load on the gas system and increasing RNG supply costs.[127]

90. Therefore, FEI is only seeking approval of the Renewable Gas Connections service at the proposed LCG Charge, as there is no other charge that is viable for this service as it has been designed – i.e., mandatory 100% RNG for all new residential connections across FEI's entire service territory. As such, if the BCUC were to deny FEI's proposed rolled-in pricing, FEI requests that the BCUC reject the proposed Renewable Gas Connections service with reasons for FEI's consideration, so that FEI could potentially bring forward an alternative that is tailored to be feasible at a different price.[128]

F. Renewable Gas Connections Service Will Provide Significant Benefits and is in the Public Interest

91. FEI submits that the Renewable Gas Connections service will provide significant benefits and is in the public interest. FEI discusses these benefits in the following subsections.

(a) Renewable Gas Connections Service Maintains Energy Choice and Responds to Customer Needs

92. A key benefit of the Renewable Gas Connections service is that FEI will have a low carbon energy offering for the new residential construction market that will maintain energy choice and respond to customer needs. It is evident from FEI's extensive consultation that energy choice is

---

126 Exhibit B-17, BCUC IR1 18.1.1.

127 Exhibit B-17, BCUC IR1 13.1, 14.1, 18.1.1 and 20.3.2.

128 Exhibit B-17, BCUC IR1 23.3.3.

highly valued by customers. Put simply, stakeholders are seeking energy choices, including Renewable Gas, that meet their needs and those of their customers.[129] As explained in the quotes below, builders and developers are seeking energy choice and options when designing mechanical systems to accommodate varying climate zones across BC:

> "We believe that builders and consumers deserve competition in the energy sector and are thrilled that FortisBC has come up with a carbon neutral option through your 100% Renewable Gas program." – CHBA Central Interior
>
> "The South Okanagan climate zone can get annual temperature fluctuations of 80 degrees. That is why it is imperative for our Builders and Energy Advisors to have options when designing mechanical systems." – CHBA South Okanagan
>
> "We need to have energy options to maintain viable communities and this includes Renewable natural gas" – Ador Properties Group
>
> "As a top goal at Westland is to enhance the communities we build in, we support choice in all innovative ways to build and recognize that renewable gas would offer an excellent energy solution that is safe, reliable and affordable for home owners." – Westland Living
>
> "We see RNG as a key ingredient to a clean energy mix and a carbon neutral future in residential living." – Wilden Construction Corp
>
> "In order to continue building innovative homes in British Columbia that meet environmental and fiscal objectives, we see FortisBC's Renewable Gas as an excellent option that not only help combat climate change but also provide a source of safe, affordable and reliable, carbon-neutral energy" – Regent International Developments
>
> "One opportunity, in the advanced stages of development, is a good waste to energy facility in partnership with Semiahmoo First Nation. The Facility will address a short fall in organics waste processing in the region and is expected to provide significant financial returns to the Nation and its members. In addition, the project will enable the construction of a natural gas supply line to the Semiahmoo reserve lands without requiring additional capital investment on the part of the nation. The project will also enable the construction of roads and utility infrastructure on undeveloped portions of the reserve, facilitating future industrial/commercial development opportunities for the Nation. Semiahmoo's long term aspiration is that the availability of energy and economic opportunity

[129] Exhibit B-11, Application, p. 145.

will allow more of the Nation's members to return to their traditional lands" – Andion North America Limited

93. In line with the results of FEI's consultation, FEI's Renewable Gas Connections service provides an option for customers, builders and developers to adhere to applicable GHG regulations, using high efficiency gas equipment to which they are accustomed, while avoiding additional burden or costs on the end-use customer.[130]

94. Preserving a role for gas service will also provide an option for low-income customers that cannot afford costly equipment changes. As recognized by the Aboriginal Housing Management Association, "it is important to have a choice to address both the affordability concerns of our members and capacity issues around heat pump adoption, which vary from region to region."[131] This sentiment was echoed by the Canadian Home Builders Association of BC which noted that "grid reliability and maintaining adequate heat, particularly during winter power outages, is a primary concern" and that FEI's Renewable Gas Connection service represents "a step towards maintaining housing affordability, at a time that record levels of housing are desperately needed by British Columbians."[132]

95. An example of the benefits of maintaining energy choice is that allowing RNG to serve new buildings will provide an alternative option that can offset any capacity constraints on the electric distribution system.[133] FEI has been informed by builders/developers that there are high growth areas where an increase in electric distribution capacity is required. For these homebuilders to move forward with their development, it will come at a higher cost and with a longer timeframe when compared to a Renewable Gas solution. This challenge is recognized in the September 2022 Provincial policy bulletin for cleaner, more energy efficient new construction, which acknowledged the potentially significant extension fees for larger electrical services, stating: "In advance of changes to utility extension fees in electric utility tariffs or introduction of an electrification fund, local governments are advised to allow compliance via

---

130 Exhibit B-11, Application, p. 101.

131 Exhibit E-20.

132 Exhibit E-120.

133 Exhibit B-65, Rebuttal Evidence to CoV et al. (Mr. Pander), pp. 8-9.

RNG."[134] Consistent with this advice, if a builder can use RNG for space and water heating, this can alleviate distribution capacity constraints, advance construction projects, reduce emissions, and enable local governments to meet their housing supply targets.[135]

96. By providing energy choice, the Renewable Gas Connections service offering will also allow FEI to engage in conversations with local governments and municipalities regarding how they will be able to meet their GHGi objectives for new residential construction through 100 percent RNG.[136] Moreover, approval of the Renewable Gas Connections service would enable the Province to recognize RNG as a pathway under the Zero Carbon Step Code, which would further expand energy choice in British Columbia.[137]

97. FEI submits that the ability of all customers in FEI's service territory to have access to gas service is in the public interest and this factor heavily weighs in favour of approval of the Renewable Gas Connections offerings.[138]

(b) Promotes Economic Efficiency and More Affordable Rates

98. The Renewable Gas Connections service will promote economic efficiency and more affordable rates as it will utilize the assets of the utility more efficiently, while also furthering British Columbia's decarbonization efforts. By preserving a gas service for new residential construction, all FEI customers will benefit from higher demand and lower rates compared to an alternative where FEI was not permitted to serve new residential construction customers.

99. The value of the natural gas system in British Columbia is difficult to overstate. As described by FEI:[139]

> Gas infrastructure in the province is a multi-billion dollar asset, resulting from over 70 years of sustained development, which provides reliable, safe, affordable and high-quality energy services to British Columbians. Building a gas system today to

---

134 Exhibit B-65, Rebuttal Evidence to CoV et al. (Mr. Pander), pp. 8-9.

135 Exhibit B-65, Rebuttal Evidence to CoV et al. (Mr. Pander), pp. 8-9.

136 Exhibit B-11, Application, p. 101; Exhibit B-78, BCSEA IR1 31.3 Rebuttal.

137 Exhibit B-65, Rebuttal Evidence to CoV et al. (Mr. Pander), pp. 6-8; Exhibit B-81, BCUC IR1 2.7 Rebuttal CoV.

138 Exhibit B-42, BCUC IR2 48.3.

139 Exhibit B-11, Application, p. 44.

> replace the existing system would be cost prohibitive, making the existing system even more valuable to British Columbians. FEI operates over 50,000 kilometres of energy delivery infrastructure and has invested in significant energy storage capacity. Over three million British Columbians currently rely on natural gas service, with over 58 per cent of households in the province using natural gas as their primary heating source.

100. As the natural gas distribution system represents billions of dollars of investment on behalf of customers, it is critical to maintain throughput on the system via the Renewable Gas Connections service to avoid a rate spiral that would be detrimental to customers. In the absence of the Renewable Gas Connections service, government policies will result in lower gross customer additions, resulting in decreasing system throughput. In a scenario which assumes that provincial building stock turnover is approximately 2 percent per year[140] and none of those new buildings connect to the gas system, resulting in FEI losing 2 percent of its residential and commercial customers per year, FEI could expect the total volume of gas sold to residential and commercial customers in 2032 to be 20 PJ or 18 percent lower than it would be if the Renewable Gas Connections service was approved.[141] Further, absent being able to add new customers, the additional costs associated with increasing Renewable Gas content in FEI's gas portfolio will be borne by all remaining customers (which would decline over time). This will result in higher costs for those remaining customers, and in particular, those customers that are unable to switch away from gas to electric heat pumps due to the high cost of the equipment or required building retrofits.[142] Not surprisingly, FEI's analysis shows that such a scenario results in higher overall bills for customers.[143]

(c) Supports a Diversified Energy System

101. The Renewable Gas Connections service is also beneficial and in the public interest as it will support a diversified energy system that is a more cost-effective, reliable and resilient system

---

[140] Exhibit B-42, BCUC IR2 54.5. Although subject to uncertainty, the 2 percent value is a reasonable and conservative estimate of the provincial building stock turnover rate. See Exhibit B-42, BCUC IR2 53.1 for an explanation of how the 2 percent figure was derived.

[141] Exhibit B-17, BCUC IR1 12.2; Exhibit B-42, BCUC IR2 53.2.

[142] Exhibit B-21, BCOAPO IR1 8.2.

[143] Exhibit B-19, BCSEA IR1 8.5.

compared to an all-electric alternative, and provides a scalable solution to reducing GHG emissions.

102. As described in detail in Section 4 of the Application, FEI's gas delivery system:

- Has been designed to effectively and efficiently meet peak demand – serving customers when they need it most;
- Maintains energy redundancy in conjunction with other low carbon energy solutions; and
- Keeps energy costs affordable for customers by leveraging existing system benefits in the face of a period of increased investment due to the energy transition.

103. Given these attributes, the gas delivery system can deliver rapid and long-term GHG emission reductions through "drop-in" fuels such as RNG and hydrogen, improvements in energy efficiency, along with other key mitigation options like carbon capture and storage.[144]

104. Preserving a role for the gas system will maintain a diversified energy system in the Province that will provide substantial benefits to customers. An analysis conducted by FEI and Guidehouse in the Pathways Report[145] concludes that a "Diversified Pathway" that includes a meaningful role for the existing gas system, to provide heat to buildings, fuel for commercial vehicles and energy to industry with renewable and low-carbon gases, is a lower cost and more resilient decarbonization pathway for British Columbians.[146]

105. A diversified pathway to decarbonize building energy demand would include the following benefits:[147]

> **Cost-Effectiveness:** Using the existing gas delivery system, which has been specifically designed to service heat loads in BC, to deliver increasing quantities of Renewable Gas is a less costly pathway than reducing or eliminating gas system

---

144 Please refer to the response to BCUC IR1 1.1 for a detailed explanation of how FEI will comply with the targets out to 2030.

145 Guidehouse Inc., *Pathways for British Columbia to Achieve its GHG Reduction Goals*, August 2020: https://www.cdn.fortisbc.com/libraries/docs/default-source/about-us-documents/guidehouse-report.pdf.

146 Exhibit B-17, BCUC IR1 23.3.

147 Exhibit B-17, BCUC IR1 23.3. Also see Exhibit B-72, CEC IR1 4.1 Rebuttal CoV.

load in favour of sole reliance on the electricity system to deliver building heat. In particular, significant new electricity infrastructure that would be required to meet peak heating loads, along with additional loads (e.g., from the transportation sector). After accounting for these capital investments in the electrical system, the Diversified Pathway is approximately $100 billion less costly than an approach that relies on electrification of building heating and commercial vehicles.

A recent cold snap in BC is a timely example of the heating load shouldered by FEI's existing infrastructure and the challenges of switching a load of that size and importance over to alternative sources. On December 27 2021, a cold day in South-West BC, FEI's gas system delivered the equivalent of 20,120 MW at 8:00 AM for heating services to its customers. This was almost double the output of BC Hydro's peak on the same day. Shifting this load to the electrical system would require significant excess firm generating capacity, along with potentially sizeable upgrades to the electric transmission and distribution systems.

Greater Resiliency: The Diversified Pathway enhances the overall resilience of the energy system because the gas and electric systems are operating in tandem to meet BC's energy demand. The Pathways Report evaluates an Electrification Pathway that would see the share of electricity consumption grow to 50 percent of all energy use. This would require significant investments in resiliency within the electricity system to be able to reliably deliver critical heating energy to building residents. Moreover, the Electrification Pathway relies on electricity to deliver approximately two thirds of the GHG emission reductions required by 2050.

Scalable Solution to Reducing GHG Emissions: According to the *BC Renewable and Low-Carbon Gas Supply Potential Study,* provincially sourced renewable gases and low-carbon gases can supply up to 440 PJ by 2050. The report estimates that the required infrastructure investment would be approximately $20 billion for this level of supply. This investment amount is relatively modest compared to the cost of electricity generation mega-projects, while delivering significantly more energy and supporting economic growth.

106. Ultimately, the Renewable Gas Connections service will support a diversified energy system in British Columbia, contributing significant benefits to customers. Therefore, FEI submits that its proposed Connections service is beneficial and in the public interest and should be approved as filed.

PART FOUR: Modifications to the Voluntary Offering Are Just And Reasonable

107. The only material issue in this proceeding with respect to the Voluntary Renewable Gas offering is the pricing for the LCG Charge. FEI submits that the current short-term Biomethane Energy Recovery Charge (BERC) (CCRC + carbon tax + $7 per GJ premium) remains a just and reasonable approach for all non-NGV sales customers. For NGV customers and T-Service customers, FEI submits that the LCG Charge should be set equivalent to the average weighted cost of supply of RNG (i.e., full cost recovery). FEI also submits that the $1/GJ discount for the rate paid for RNG under a long-term contract for T-Service customers should be discontinued.

108. FEI's submissions in the subsections below are organized around the following points:

- A voluntary offering remains an important and beneficial component of the Program.
- The existing $7 premium over the CCRR plus carbon tax remains the most reasonable rate for non-NGV sales customers.
- The price of RNG for NGV and T-Service customers should be the average acquisition cost of RNG.
- The price discount for long-term RNG contracts should be discontinued.

A. Voluntary Offering Remains an Important and Beneficial Component of the Program

109. FEI's Voluntary Renewable Gas offering has been successful to date[148] and FEI forecasts demand for RNG under the Voluntary offering to reach 6 PJ by 2027.[149] The Voluntary Renewable Gas offering remains an important and beneficial component of FEI's revised Renewable Gas Program.[150]

110. First, the Voluntary Renewable Gas offering meets the needs of gas customers seeking to reduce their GHG emissions. This includes public sector building operators who are mandated to achieve carbon neutrality, natural gas for vehicle (NGV) customers who are incentivized to reduce

---

148 Exhibit B-11, Application, Section 2.

149 Exhibit B-89, Evidentiary Update, p. 13, Table 5-2.

150 Exhibit B-17, BCUC IR1 11.1.

their emissions under BC's Low Carbon Fuel Standard (BC-LCFS),[151] and building owners, who want to take action to address GHG emissions and climate change generally. More generally, a blend-based opt-in RNG service provides an option for any customer who wants or needs to purchase RNG in excess of what may be delivered through the Renewable Gas Blend service, allowing these customers to achieve their GHG emission reduction targets.[152]

111. Second, the Voluntary Renewable Gas offering offsets the costs of the Renewable Gas Program for all sales customers, by concentrating the cost of RNG on customers who seek and value a higher percentage of RNG for their load. Under FEI's proposals, all revenue from the LCG Charge to Voluntary customers will reduce the balance in the LCG Account, thus reducing the S&T LC rider for the benefit of all sales customers.[153]

112. Third, the Voluntary Renewable Gas offering helps maintain affordable rates and the long-term viability of the gas system by both maintaining load on the system and supporting the economically efficient use of FEI's infrastructure. In particular, having an opt-in RNG offering promotes keeping larger volume gas customers (and their load) on the gas system, thus reducing the per GJ cost for all ratepayers.[154]

B. Existing Premium Remains the Most Reasonable Pricing for Non-NGV Sales Customers

113. FEI proposes to continue to price the Voluntary Renewable Gas service at the current short-term BERC[155] which is a $7 per GJ premium over the cost of conventional natural gas plus carbon tax (CCRA + carbon tax + $7 per GJ premium).[156] As discussed in the sections below:

- The historical success of the BERC is evidence that the $7 per GJ premium continues to be just and reasonable.

---

151 *Greenhouse Gas Reduction (Renewable and Low Carbon Fuel Requirements) Act* and *Renewable and Low Carbon Fuel Requirements Regulation*, known collectively as British Columbia's Low Carbon Fuel Standard.

152 Exhibit B-17, BCUC IR1 11.1.

153 Exhibit B-11, Application, p. 88; Exhibit B-17, BCUC IR1 11.1.

154 Exhibit B-11, Application, p. 88; Exhibit B-17, BCUC IR1 11.1.

155 FEI is proposing to rename the BERC the Low Carbon Gas Charge.

156 Exhibit B-17, BCUC IR1 28.4.

- The $7 per GJ premium is consistent with the objective to maximize revenue from the Voluntary Renewable Gas offerings.
- A higher price is likely to reduce revenue and increase rates for all sales customers.
- There is no reliable information on which to set a different rate.
- FEI's proposed differential pricing from the Renewable Gas Blend and Renewable Connections services is not unduly discriminatory.
- A consideration of Bonbright principles and other criteria supports the continued use of the $7/GJ premium.

(a) Historical Success of the BERC Is Evidence That It Continues to Be Just and Reasonable

114. The historical success of the $7 per GJ premium remains the best evidence for setting the rate for the Voluntary Renewable Gas offering.[157] As FEI has demonstrated in detail in Stage 1 of this proceeding,[158] and in Section 2.2 of the Application,[159] the $7 per GJ premium has been successful since its introduction in 2016.[160] FEI filed its 2015 BERC Application requesting approval from the BCUC to implement the $7 per GJ premium to address declining program enrolments due to the apparent price sensitivity of customers. Following its implementation, the declining customer enrolment experienced in the early years of the program was reversed. Customer enrollments, volumes of RNG sold and revenue collected increased. The BERC pricing methodology approved by the BCUC increased revenue and improved the recovery of RNG program costs from RNG customers.[161]

(b) $7 per GJ Premium Is Consistent with the Objective of Maximizing Revenues

115. The $7 per GJ premium remains consistent with the BCUC's objective of maximizing revenues from the Voluntary RNG Program. The objective of revenue maximization was intended to shield ratepayers, to the extent possible, from the costs of RNG supply acquisition for the

---

157 Exhibit B-17, BCUC IR1 28.1.

158 Exhibit B-1, BERC Rate Methodology Comprehensive Assessment Report and Exhibits B-4 to B-8, responses to IRs on same.

159 Exhibit B-11, Application, pp. 18-21.

160 Exhibit B-17, BCUC IR1 28.1.

161 Exhibit B-1; Exhibit B-11, Application, pp. 18-21. Also see FEI's Final Submissions filed on March 25, 2001, in this proceeding.

Program, given that FEI could not seek to recover the full cost of the Renewable Gas without driving down voluntary participation in the program.[162] The $7 per GJ premium continues to strike a balance that not only seeks to maximize revenues, but does so in a manner that:[163]

- Retains customers seeking a clean energy option and mitigates potential upward rate pressure if those customers left the system;
- Encourages new demand on the system from customers seeking to expand operations in a manner that produces no GHG emissions;
- Enables FEI to increase the amount of RNG in the supply portfolio that is dedicated to customers that wish to, or are required to, purchase greater amounts of RNG than is offered through the Renewable Gas Blend service;
- Leverages existing gas infrastructure to mitigate potential rate impacts and strains on the electric system associated with a major system build out, thus lowering costs for all British Columbia energy users;
- Advances GHG emission reduction goals; and
- Reduces other customers' recovery of RNG costs by way of the S&T LC rider.

116. It is important to note that Voluntary Renewable Gas customers pay the $7 per GJ premium for the volume of RNG they elect to purchase, but also pay the S&T LC rider contributing to recovery of costs of the Program.[164] By paying the S&T LC rider and the $7 per GJ premium, Voluntary Renewable Gas customers take on a greater share of the cost of RNG acquisition. This reduces the remaining cost that must be recovered from all other sales customers through the S&T LC rider.[165] Other sales customers will also benefit from FEI's ability to retain customers who would otherwise leave the system if they did not have a feasible Voluntary Renewable Gas alternative.[166]

---

[162] Exhibit B-17, BCUC IR1 16.1.

[163] Exhibit B-17, BCUC IR1 28.1 and 29.2.1.

[164] Exhibit B-17, BCUC IR1 29.2.1.

[165] Exhibit B-17, BCUC IR1 28.1 and 28.4.1.

[166] Exhibit B-17, BCUC IR1 28.1.

(c) Higher Price Will Reduce Revenue as Customers are Price Sensitive

117. FEI submits that a more aggressive premium than $7 per GJ or charging the full cost of RNG acquisition will reduce revenues from the Voluntary Renewable Gas offering to the detriment of all sales customers. Based on the history of the existing RNG Program, customer surveys and anecdotal feedback collected by FEI staff, FEI's customers remain sensitive to the price premium for RNG. As such, FEI expects that that the voluntary RNG demand in FEI's forecast would not materialize over the forecast period if the LCG Charge for the Voluntary Renewable Gas offering for non-NGV sales customers were increased by, for example, an amount equal to the RNG weighted average supply cost per GJ.[167]

118. FEI engaged a consultant, Innovative Research, to carry out several customer surveys to better understand the current views and attitudes of customers regarding RNG.[168] The survey results confirm that FEI's customers want gas service to be reliable, for it to provide comfort and convenience, for it to be efficient, and increasingly, for it to have low GHG emissions. However, all customer classes are also concerned about the price paid for energy services and are sensitive to the premium paid for RNG above conventional natural gas.[169]

119. As shown in the figure below replicated by the Brattle Group from FEI's evidence, the likelihood of signing up for Renewable Gas service declines as the cost to the consumer increases.[170] This is especially the case for customers that have many options to reduce GHG emissions, including switching to electricity or other fuels, energy efficiency, renewable distributed energy resources, carbon offsets, or any combination thereof.[171]

---

167 Exhibit B-11, Application, pp. 59 and 69-70.

168 Exhibit B-11, Application, Section 5.2.2 and Appendices B-1 and B-2.

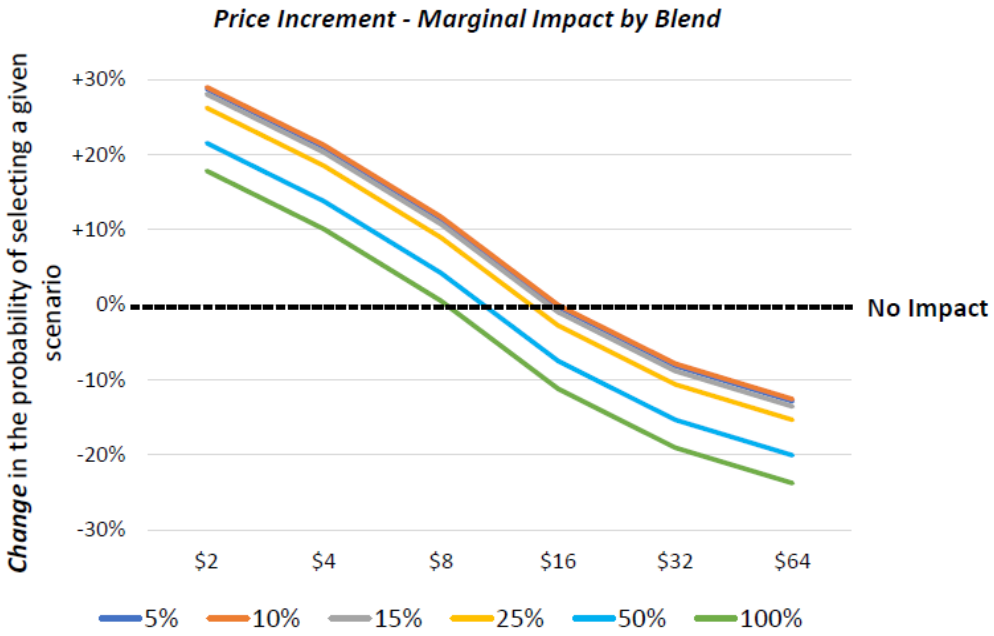
169 Exhibit B-11, Application, p. 55.

170 Exhibit A2-4, Brattle Evidence, p. 49, replicating, Figure 5-7 of the Application (Exhibit B-11, p. 59).

171 Exhibit B-17, BCUC IR1 28.1.

Figure 19: Price Increment – Marginal Impact by Blend

(Replication of FEI Figure in Appendix B-1)



120. Concentric has provided its opinion on this matter, and agrees with FEI's conclusions, as follows:[172]

> …the $7/GJ premium strikes a balance that seeks to maximize revenues, an objective noted by the BCUC, in a manner that also (1) enables FEI to increase the amount of Renewable Gas in the supply portfolio that is dedicated to customers that wish to, or are required to, purchase greater amounts of Renewable Gas than is in the blended rate; (2) advances GHG emission reduction goals; (3) reduces other customers' contributions to the S&T LC rider; and (4) retains customers and mitigates potential upward rate pressure if those customers left the system.
>
> If the premium for the Voluntary Renewable Gas service were increased, it is not likely that revenues would likewise be increased. Given the responses to the customer surveys, as well as the program history and anecdotal feedback collected by FEI staff, FEI's customers are sensitive to the price premium for Renewable Gas. The higher the price of Renewable Gas, the less likely they are to purchase it. This is especially the case for customers that have many options to reduce GHG emissions, including switching to electricity or other fuels, energy efficiency, renewable distributed energy resources, carbon offsets, or any

[172] Exhibit B-42, BCUC IR2 60.1.

> combination thereof. If the premium were increased, it is more likely that a smaller volume of voluntary Renewable Gas would be purchased.
>
> FEI has no reliable information on which to propose a change to the $7/GJ premium for the Voluntary Renewable Gas service. Please refer to Sections 5.2.2 and 5.8 of the Application. FEI has indicated that it cannot perform a price elasticity analysis to reasonably determine what customers may actually be willing to pay for Renewable Gas, and what effect changes in price may have on the demand for Renewable Gas under the Voluntary Program.

121. The Brattle Group also noted the relevance of a customer's willingness to pay a higher commodity price as being particularly relevant to voluntary customers.[173]

122. Thus, based on the available information, FEI considers that, if the LCG Charge for Voluntary customers were set at the average cost of RNG acquisition, the demand driven by the Voluntary Renewable Gas offering would be significantly lower and primarily from NGV customers.[174] FEI submits that sales customers would be materially worse off in this scenario, and this is not a reasonable or beneficial outcome.

(d) There is No Reliable Information, Including Elasticity of Demand, on Which to Justify a Change to the Premium

123. There is no reliable information on which to base a change to the $7 per GJ premium for the Voluntary Renewable Gas offering. As explained in Section 5.8 of the Application, FEI has attempted to determine the elasticity of demand for RNG offered to customers through an opt-in program, but data limitations make it impractical to perform a robust analysis that could serve as the basis for setting the RNG price. This is because the price of RNG has never been based on market forces (i.e., has not been allowed to rise and fall with demand). As such, there is no demand and price data reflecting *market forces*. The data necessary to conduct a price elasticity study to reasonably determine what customers may actually be willing to pay for RNG, and what effect changes in price may have on the demand for RNG under the Voluntary Renewable Gas

---

[173] Exhibit A2-4, Brattle Evidence, p. 46.

[174] Exhibit B-17, BCUC IR1 28.7.

offering, is simply not available.[175] FEI was also unable to find any third-party studies that are explicitly focused on price elasticity of renewable gases.[176]

124. The evidence regarding price elasticity provided by Brattle is consistent with that of FEI's. Brattle was similarly unable to find peer-reviewed academic studies that estimate the price elasticity of RNG. Brattle notes that "[t]he current body of evidence primarily comes from utilities with RNG programs" and summarizes the results of FEI's survey of current and potential Renewable Gas Program customers which supports that, beyond a certain premium, willingness to enroll in the Voluntary Renewable Gas offering turns negative.[177]

125. The evidence of FEI and Brattle regarding the availability of information regarding the elasticity of demand for RNG differs from that of My Sea to Sky (MS2S), which relies on a web search-based literature review to calculate an average price elasticity of -0.44 to -0.45.[178] As explained in FEI's Rebuttal Evidence to MS2S, there are a number of issues with the results of MS2S's web search including, in particular, that none of the studies identified focus on price elasticity for RNG.[179] Therefore, FEI submits that MS2S's evidence should be disregarded.

126. Despite the lack of reliable information regarding the elasticity of RNG-specific demand, RNG demand is likely elastic when considered relative to conventional natural gas prices. This is because the two fuels are substitutes and a customer can easily either reduce its share of RNG or completely opt-out of receiving voluntary RNG service.[180] Given the sensitivity of customers to price and the availability of options to reduce GHG emissions, FEI submits that increasing the rate for the Voluntary Renewable Gas offering for non-NGV sales customers can only increase the likelihood that customers will not purchase RNG or leave the gas system altogether in favour

---

175 Exhibit B-11, Application, p. 69; Exhibit B-17, BCUC IR1 28.1; Exhibit B-66, Rebuttal Evidence to MS2S and Brattle, A3.

176 Exhibit B-66, Rebuttal Evidence to MS2S and Brattle, A3.

177 Exhibit A2-4, Brattle Evidence, pp. 48-52.

178 Exhibit C6-4, MS2S Evidence, p. 5.

179 Exhibit B-66, Rebuttal Evidence to MS2S and Brattle, A10-A13.

180 Exhibit B-66, Rebuttal Evidence to MS2S and Brattle, A3.

of other options to reduce their GHG emissions. This result will have a detrimental impact on all sales customers.[181]

(e) Differential Pricing is Not Unduly Discriminatory for the Voluntary Renewable Gas Offering

127. FEI's proposed LCG Charge for its Voluntary Renewable Gas service offerings is different than the pricing for its Renewable Gas Blend and Renewable Gas Connections services. This difference is not unduly discriminatory, because voluntary RNG customers voluntarily choose to take the service and always have the default service available to them where they can receive conventional natural gas and a percentage of RNG provided through the Renewable Gas Blend service.[182]

128. Concentric explained the principle as follows:[183]

> …the Voluntary Renewable Gas service is appropriately priced differently than the Renewable Gas Blend or Connections services. Customers who voluntarily choose to purchase up to 100 percent Renewable Gas are charged a premium over conventional natural gas or the average cost of acquisition of Renewable Gas for that premium service. This distinction is well-supported in ratemaking principles. Charging a different price for a different service is just discrimination where that service is distinguishable from the default service, and where the value of that service to the customer is materially different. In FEI's proposal, new customers joining the natural gas system are not provided a distinguishable service as compared to the service provided to existing customers. By contrast, Voluntary Renewable Gas service customers voluntarily pay FEI to acquire fully-decarbonized supply, which is distinguishable both as a matter of cost causation and value. Therefore, charging the directly assigned stand-alone cost to those customers is "just discrimination".
>
> The elimination of any premium for Voluntary Renewable Gas would violate the principle established by the BCUC that the voluntary program should maximize revenues to cover as many of the higher Renewable Gas costs as possible while still maintaining customer interest in the program. It would also not produce the reductions in the S&T LC rider for blended rate customers that would result from the voluntary service.

---

181 Exhibit B-17, BCUC IR1 28.1.

182 Exhibit B-17, BCUC IR1 28.3.

183 Exhibit B-21, BCOAPO IR1 15.3.

(f) Consideration of Bonbright Principles and Other Criteria Supports Continuation of $7 Per GJ Premium

129. Finally, a consideration of Bonbright principles[184] and other relevant criteria further supports FEI's proposal to continue the $7 per GJ premium to set the LCG Charge for non-NGV sales customers. Concentric prepared the following response to a request to evaluate alternative rate-setting mechanisms against the Bonbright rate design criteria and other objectives. Concentric's response supports the continuation of the $7 per GJ premium and is quoted below:[185]

> The "cost-based" rate-setting option will result in fewer customers without GHG mandates participating in the program. Moreover, it would drive customers with GHG mandates away from Renewable Gas and toward the use of electricity given the unlevel playing field that exists today…. Such a result is not only inconsistent with the BCUC's objective of maximizing revenues, but will also likely put upward pressure on gas rates as customers with GHG mandates substitute electricity for Renewable Gas to meet their clean energy needs. It also increases the potential for underutilized assets and increasing rates. Such outcomes are not in the long-term interests of FEI's existing customers or the public.
>
> The option of establishing higher voluntary rates for customers with GHG/ESG mandates than voluntary customers without such mandates is problematic for several reasons. First, it presumes that FEI has sufficient information to assess the extent to which higher prices for such customers would intersect with the BCUC's object of maximizing revenues. The responses to BCUC IR1 1.28.4 and 28.5 explain why FEI does not have sufficient information to make this determination. This option, which would result in customers with mandates paying more for Renewable Gas than customers participating in the program without such mandates, could represent undue discrimination. The reality is that the cost of participation in the program should not be based on whether a customer has or does not have a mandate to purchase Renewable Gas because there is no cost differential between the Renewable Gas molecules that FEI purchases on behalf of both customer types. See the responses to BCUC IR1 13.2 and 28.3. Finally, this approach could result in unintended consequences such as customers eliminating or reducing their mandated requirements or customers substituting electricity for Renewable Gas. Neither of these outcomes are in the public interest.

---

184 *Principles of Public Utility Rates,* James Bonbright (1961), p. 291.

185 Exhibit B-17, BCUC IR1 30.1.

The requested comparison of the hypothetical alternatives to FEI's proposal is provided in the table below, which reflects the significant concerns related to the two alternative approaches.

	FEI's proposed LCG Charge: CCRC + $7/GJ + carbon tax ($/GJ)	**Cost-based rate-setting mechanism: weighted average RG supply cost for all Voluntary Sales customers**	**Differentiated rate setting mechanism: higher rate for customers with GHG/ESG mandates and lower rates for others**
Bonbright Criteria			
1. Recovery of the revenue requirement	√	√	√
2. Fair apportionment of costs	√	√	N
3. Efficient price signals	√	N	N
4. Customer understanding and acceptance	√	√	√
5. Practical and cost-effective	√	√	N
6. Rate stability	√	√	√
7. Revenue stability	√	N	N
8. Avoid undue discrimination	√	√	N
Additional Criteria			
9. Maximizing revenues from the RG Program	√	N	N
10. Minimizing cross-subsidization from FEI sales customers	√	√	√
11. Ability to attract new voluntary customers	√	N	N
12. Meeting Government policy	√	N	N

C. Price of Renewable Gas for NGV and T-Service Customers Should be the Average Cost of RNG Supply

130. FEI submits that its proposed LCG Charge for NGV and T-Service customers at the average cost of RNG supply is just and reasonable and should be approved. In the subsections below, FEI sets out the rationale for its proposed LCG Charge for these customers, why this proposal is not unduly discriminatory, and how a consideration of Bonbright principles and other criteria support its proposed approach.

(a) Rationale for LCG Charge for NGV Customers

131. FEI's primary rationale for increasing the LCG Charge for NGV customers to the average cost of RNG supply is that any GHG emission reductions resulting from the sale of RNG to NGV customers will not contribute to achieving the GHG reduction policy for buildings and power industries described in the CleanBC Roadmap. The CleanBC Roadmap calls for the gas system to reduce emissions from natural gas used to heat homes and buildings and power industries to 47 percent lower than 2007 levels by 2030. Since RNG volumes sold to NGV customers cannot contribute to achieve the public policy target for buildings and power industries, additional RNG volumes would have to be purchased by FEI ratepayers to meet the GHG emission reduction objectives described in the CleanBC Roadmap. If RNG is sold to NGV customers at a discount to the cost of acquisition, the effect would be to increase the costs borne by all other ratepayers as more RNG would need to be purchased to meet the policy objective. By setting the RNG rate for NGV customers at the average supply cost, all other gas system ratepayers should be indifferent to the sale of RNG to NGV customers.[186]

132. While not necessary to justify FEI's proposal, FEI's secondary rationale is that RNG has a higher value to NGV customers than other customer types due to the BC-LCFS. NGV customers receiving compressed natural gas (CNG) service and liquefied natural gas (LNG) service in BC are eligible for Part 3 fuel supplier status under the BC-LCFS. Part 3 fuel suppliers that reduce the carbon intensity of their fuel relative to the baseline carbon intensity identified in the *Renewable and Low Carbon Fuel Requirements Regulation* can generate credits which can be sold in the

[186] Exhibit B-11, Application, p. 104; Exhibit B-80, BCUC IR1 1.5.1 Rebuttal BrightSide.

credit market, providing a financial incentive for NGV customers to reduce their GHG emissions by purchasing RNG.[187]

133. Specifically, NGV customers are eligible to generate credits under the BC-LCFS using RNG fuel codes based on in-province RNG supply and, potentially, RNG supplied from Alberta.[188] FEI has received approval for such RNG fuel codes and will allocate them to customers in proportion to the volumes of RNG they purchased.[189] Therefore, even though out-of-province RNG does not qualify for fuel codes under the BC-LCFS, RNG still has a higher value to NGV customers than to other customer types.[190] In addition, the federal *Clean Fuel Regulations* are now in force, which may provide another opportunity for NGV customers to generate credits for the use of RNG.[191]

134. However, to be clear, FEI considers that its primary rationale above is a sufficient basis for its proposal even if NGV customers were not eligible for any credits under the BC-LCFS or federal *Clean Fuel Regulations.*

(b) Rationale for LCG Charge for T-Service Customers

135. FEI's rationale for charging T-Service customers[192] the full cost for RNG is that these customers are not included in the Renewable Gas Blend service and, as such, will not: (1) receive any RNG volumes via the S&T LC rider or (2) pay for under-recoveries from the Renewable Gas Connections service or Voluntary Renewable Gas offering.[193] In short, since T-Service customers are not charged the S&T LC rider, and do not contribute to the recovery of Program costs, they should not receive any discount on pricing of RNG.[194]

---

187 Exhibit B-11, Application, p. 104 and also see Section 5.7.2 for a discussion of the BC-LCFS.

188 Exhibit B-64, Rebuttal Evidence to BrightSide, A3, p. 2: EMLI takes the position that, under the *Greenhouse Gas Reductions (Renewable and Low Carbon Fuel Requirements) Act*, fuel must be manufactured in or physically delivered to BC to generate credits and notional delivery (delivery by displacement) does not satisfy this requirement.

189 Exhibit B-80, BCUC IR1 2.1 and 3.3.1 Rebuttal BrightSide.

190 Exhibit B-80, BCUC IR1 1.5.1 Rebuttal BrightSide.

191 Exhibit B-64, Rebuttal Evidence to BrightSide, A3, p. 2. Exhibit B-80, BCUC IR1 2 2.2 and 2.3 Rebuttal BrightSide.

192 T-Service customers may purchase RNG under existing Rate Schedule 11B, which FEI proposes to rename Rate Schedule 11LC: Exhibit B-19, BCSEA IR1 4.5.

193 Exhibit B-1, Application, pp. 104-105.

194 Exhibit B-42, BCUC IR2 62.3.

136. This modification to the Voluntary Renewable Gas offering also responds to feedback from T-Service customers. These customers, and their marketers, have expressed concern regarding the added cost associated with the existing BVA rider given there is no RNG being delivered to them by FEI.[195] In essence, as these customers purchase their own commodity, they feel that they should not be paying for FEI's RNG acquisitions. If the current mechanism for the BVA delivery rider were to remain, the rider will increase as more volumes of RNG are added to the gas supply, resulting in T-Service customers paying increasing rates yet not receiving any program benefits.[196]

137. Customers that select T-Service are larger commercial and industrial customers, who are sophisticated energy users and have the capacity to select a service that best meets their individual needs. These customers purchase their own commodity and will have the option to purchase RNG in the market or from FEI through Rate Schedule 11B[197] if it is available. They may also elect to become a sales customer of FEI, in which case they will receive RNG through the Renewable Gas Blend service and can choose to purchase additional RNG through the Voluntary Renewable Gas offering.[198]

138. Ultimately, charging T-Service customers the full cost of acquisition has a number of benefits, is just and reasonable, and consistent with the principle that these customers should have the choice to select a service that makes the most sense for their business needs.

(c) LCG Charge for NGV and T-Service Customers is Not Unduly Discriminatory

139. FEI's proposed higher pricing for NGV and T-Service customers is not unduly discriminatory as these customers are not similarly situated to non-NGV sales customers. Concentric explained the applicable principles as follows:[199]

---

195 Exhibit B-1, Application, pp. 104-105.

196 Exhibit B-1, Application, p. 105.

197 Proposed to be renamed to Rate Schedule 11LC: Exhibit B-19, BCSEA IR1 4.5.

198 Exhibit B-42, BCUC IR2 62.1.

199 Exhibit B-19, BCSEA IR1 4.15.

The proposed treatment of non-NGV sales customers as compared to T-Service customers and NGV customers is not unduly discriminatory because T-Service and NGV customers are not similarly situated when compared to sales customers. […]

As discussed in Section 7.4.3.2 of the Application, the CleanBC Roadmap introduced a new cap on natural gas utilities to reduce GHG emissions from the use of conventional natural gas in certain sectors of the economy, including buildings and industry (but not transportation), to 47 percent lower than 2007 levels, by 2030. As a result of this policy, any volume of Renewable Gas sold to NGV customers means that FEI ratepayers must purchase additional Renewable Gas in order to achieve the reduction target. Should these volumes be sold to NGV customers at less than the cost of acquisition, FEI sales customers will also bear the cost of reducing the emissions of the transportation sector, in addition to the cost of reducing the emissions for the proposed GHG emissions cap for gas distribution utilities. FEI's proposal addresses this concern by having NGV customers pay the full Renewable Gas acquisition cost.

It is also important to recognize that Renewable Gas has a higher value to NGV customers than to other customer types. NGV customers receiving CNG service and LNG service in British Columbia are eligible for Part 3 fuel supplier status under the BC-LCFS. NGV customers who purchase their own gas supply from a gas marketer are also eligible. Part 3 fuel suppliers that reduce the carbon intensity of their fuel relative to the baseline carbon intensity identified in the BC-LCFS can generate credits which can be sold in the credit market. In effect, the current BC-LCFS provides these customers with a financial incentive to reduce their GHG emissions by purchasing Renewable Gas, as discussed in Section 5.7.2 of the Application.

Under FEI's proposal, T-Service customers will also pay the full cost of Renewable Gas if they choose to purchase Renewable Gas under Rate Schedule 11LC. T-Service customers have elected to purchase their own commodity, rather than receive it from FEI, and therefore are not similarly situated to sales customers. T-Service customers also have the option to move to sales service and receive Renewable Gas via the S&T LC rider and, if they wish, incremental volumes through the Voluntary Renewable Gas service.

Overall, this information indicates that NGV customers are not similarly situated to non-NGV sales customers. Charging a different price for a different service is just discrimination where that service is distinguishable from the default service, and where the value of that service to the customer is materially different. In FEI's proposal, NGV customers voluntarily pay FEI to acquire fully-decarbonized supply, which is distinguishable both as a matter of cost causation and value. Therefore, charging the directly assigned stand alone cost to those customers is "just discrimination". Similarly, T-Service customers are not sales customers, unless they elect to purchase renewable gas from FEI, and will not contribute to any

> shortfalls in the recovery of Renewable Gas costs. Therefore, their exemption from the S&T LC rider does not amount to unjust discrimination.

140. In addition, both NGV and T-Service markets are workably competitive, which means that market pricing for these market segments is not unduly discriminatory. Concentric states:[200]

> Both the NGV and T-Service markets are workably competitive. The NGV market has various options available to it, including hydrogen, gas, diesel, electric vehicles and CNG and RNG. T-Service is both voluntary and customers have competitive alternatives to buy gas, including conventional natural gas and RNG. In markets that are workably competitive, market pricing is not unduly discriminatory.

141. FEI therefore submits that its proposed pricing is not unduly discriminatory.

(d) Consideration of Bonbright Principles and Other Criteria Confirms Proposed Approach

142. When assessed against Bonbright principles and other relevant criteria, FEI's proposed LCG Charge for NGV customers is superior to an LCG Charge that matches other sales customers (CCRC + carbon tax + $7 per GJ premium). Concentric prepared the table below showing a comparison of the two approaches against Bonbright principles and other criteria.[201] Using an LCG Charge that matches other sales customers does not meet principles 1, 2, 3, 6, 7 and 8 and criterion 10, for the reasons discussed above, namely: the significant volumes required to serve NGV demand would have to be paid for in part by all ratepayers paying the S&T LC rider and, importantly, would not help the utility achieve the GHG emission reduction cap described in the CleanBC Roadmap.[202]

	FEI's proposed LCG Charge: 100 percent of the average cost of Renewable Gas supply	**LCG Charge matching that of other sales customers (e.g., CCRC + $7/GJ premium + carbon tax)**
Bonbright Criteria		
1. Recovery of the revenue requirement	√	N
2. Fair apportionment of costs	√	N
3. Efficient price signals	√	N

[200] Exhibit B-42, BCUC IR2 62.7.1.

[201] Exhibit B-80, BCUC IR1 62.11 Rebuttal BrightSide.

[202] Exhibit B-42, BCUC IR2 62.8.

	FEI's proposed LCG Charge: 100 percent of the average cost of Renewable Gas supply	LCG Charge matching that of other sales customers (e.g., CCRC + $7/GJ premium + carbon tax)
4. Customer understanding and acceptance	√	√
5. Practical and cost-effective	√	√
6. Rate stability	N	N
7. Revenue stability	√	N
8. Avoid undue discrimination	√	N
Additional Criteria		
9. Maximizing revenues from the RG Program	√	√
10. Minimizing cross-subsidization from FEI sales customers	√	N
11. Ability to attract new voluntary customers	√ -	√
12. Meeting Government policy	√ (there are multiple government policies)	√ (there are multiple government policies)

D. Price Discount for Future Long Term Contracts Should be Discontinued

143. As its final change to the Voluntary service, FEI submits that its proposal to discontinue the $1 per GJ discount for any future long-term RNG contracts is just and reasonable and should be approved. In Directive 2 of Order G-133-16, the BCUC approved the Long Term BERC Rate to be set at a $1 per GJ discount to the Short Term BERC Rate, subject to the following:

- In order for a contract to be eligible for the Long Term BERC Rate, the contract must be for a commitment to purchase no less than 60,000 GJ in aggregate over the term of the contract and must be for a term of no less than five years and no more than ten years;
- Long term contracts shall be subject to a Minimum Contract Strike Price of $10 per GJ; and
- Long term contracts must include a Contract Floor Price provision that results in the price of RNG in any period beyond year five of a contract that is not less than the prevailing Conventional Gas Cost.

Subject to FEI's proposal to discontinue the $1 per GJ discount, FEI considers that the provisions of Directive 2 of Order G-133-16 remain relevant and should be maintained with respect to long-term contracts under the revised Renewable Gas Program.

144. In the following subsections, FEI addresses the following points:

- The discount for long-term contracts is no longer required.
- Setting a higher price for long-term contracts is unlikely to be successful.
- FEI will continue to offer long-term contracts and file them with the BCUC for approval.

(a) Discount for Long-Term Contracts is No Longer Required

145. FEI is proposing to remove the $1 per GJ discount for any future long-term contracts, as the conditions that made the $1 per GJ discount a reasonable approach in 2015 are no longer applicable.

146. When FEI proposed the $1 discount in the 2015 BERC Rate Application, the program was entirely voluntary in nature and, if FEI was unable to sell all the RNG it acquired, the cost of unsold RNG would be transferred to all FEI customers, subject to BCUC review and approval. FEI intended the $1 discount to help reduce the risk of unsold volumes by encouraging eligible large volume customers to enter into long-term contracts. These contracts created long-term revenue certainty, provided a more predictable load throughout the year, and reduced marketing efforts directed at the eligible customer group. The most important of these considerations at the time was the assurance of revenue from a voluntary customer.[203]

147. FEI's proposed revised Renewable Gas Program, however, incorporates mechanisms to ensure that all RNG will ultimately be sold to customers through the Renewable Gas Blend service. As such, a $1 discount is no longer required for future long-term contracts. FEI also does not believe the elimination of the $1 discount will have a material impact on the overall demand

[203] Exhibit B-17, BCUC IR1 11.4.

for RNG, or its ability to sell the RNG it acquires.[204] Therefore, FEI submits that the discount should be discontinued.

(b) Setting a Higher-Price for Long-Term Contracts Would Have No Benefit

148. FEI submits that a marked-up price above the short-term rate (e.g., $1 markup) is likely to reduce cost recovery as many customers will simply opt for the short-term rate or find other GHG emission reduction solutions. FEI expects customers will come to understand that, once enrolled in the Program, the RNG supply is sufficiently stable to meet their needs even without a long-term contract. The preference for the short-term rate would be amplified by greater spreads between the short-term and marked-up long-term rate, likely limiting how much incremental revenue could be achieved. On the other hand, a potential negative consequence of a marked-up rate is that certain large-volume customers will not be satisfied with the cost of RNG under the long-term rate, or the perception of supply uncertainty associated with a short-term rate. These customers may instead seek solutions to their GHG emission reduction needs elsewhere, thus shifting load away from the gas system and reducing recovery of Renewable Gas Program costs.[205]

(c) FEI Will Continue to Offer Long-Term Contracts and File with the BCUC for Approval

149. FEI currently has long-term contracts with UBC, Translink and the City of Vancouver. The terms of these approved long-term contracts will remain in place until the expiry date as stipulated in the contract, and the renewal terms in the existing long-term contracts will be grandfathered.[206]

150. Long-term contracts such as these still provide benefits to both customers and FEI:[207]

- Long-term contracts provide a solution that some large volume customers seek, thereby offering these customers a gas-based approach to reducing their GHG emissions. These customers would like to enter into long-term Renewable Gas purchase agreements in order to demonstrate a long-term commitment to

[204] Exhibit B-17, BCUC IR1 11.4.

[205] Exhibit B-17, BCUC IR1 11.5.

[206] Exhibit B-17, BCUC IR1 11.3.1.

[207] Exhibit B-17, BCUC IR1 11.7.

reducing GHG emissions, either for their own internal ESG objectives, or to demonstrate long-term compliance with local or provincial regulations. Long-term contracts also ensure that these customers' requested volumes are well understood and accounted for by FEI in advance. This helps provide supply certainty for these customers. With a gas-based solution, these customers have the option to keep their load on the gas system, either in whole or in part, helping to spread the cost of the gas system over a greater overall volume of throughput.

- FEI is provided with 5 to 10 years of insight into the Renewable Gas demand from customers who enter into long-term contracts. This insight will help FEI forecast the demand for Renewable Gas for rate setting purposes, as well as to ensure that enough supply has been contracted to provide for customer demand.

151. Therefore, FEI will continue to offer long-term contracts for customers who meet the long-term contract eligibility requirements previously approved by the BCUC. With respect to other provisions in FEI's pro-forma long-term contract, FEI's proposal to set the long-term contract rate equal to the short-term rate would render two of the long-term contract provisions redundant:[208]

- The rate escalation provision would no longer apply. Under FEI's proposal, the rate charged to customers under the long-term contract would match the short-term rate and consequently would be updated annually, in January of each year.

- The take or pay provision would no longer be required, both because the discounted rate would no longer be available, and because under the revised program FEI has other means of selling Renewable Gas to customers and recovering all Renewable Gas supply costs.

152. Given the above, in subsequent years following the initial contract date, the LCG Charge for long term contracts will be set to match the short term LCG Charge in January of each year and the rate escalation provision would no longer be required.[209]

153. FEI also considers that it would be appropriate to include a Contract Ceiling Price which would cap the price of the LCG Charge at the average cost of RNG acquisition. This would ensure that, if the cost of conventional gas and carbon tax escalate to the point where the LCG charge would exceed the average cost of Renewable Gas acquisition, Voluntary Renewable Gas offering

---

[208] Exhibit B-17, BCUC IR1 11.6.

[209] Exhibit B-42, BCUC IR2 63.1.

customers would not pay more than the average cost of RNG acquisition. FEI considers that this ceiling price should apply to all Voluntary Renewable Gas offering customers, both long- and short-term. The contract provision would be included in future long-term contracts submitted for approval to the BCUC.[210]

154. FEI will continue to file any long-term contracts with the BCUC for approval, so that the BCUC will have the opportunity to review the long-term contracts to ensure they meet the eligibility requirements and review any changes to FEI's pro-forma terms and conditions such as those referred to above.

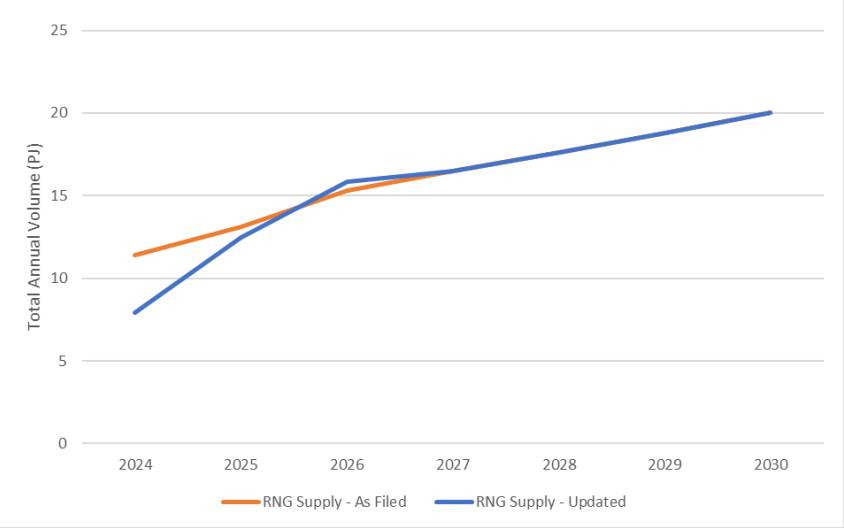
[210] Exhibit B-42, BCUC IR2 63.2.

PART FIVE: THERE IS SUFFICIENT RNG SUPPLY FOR THE PROGRAM

155. In this Part, FEI addresses sufficiency of RNG supply to meet the design of FEI's revised Renewable Gas Program. As discussed in this Part, FEI has continued to grow its supply of RNG, while managing supply-related risks, potential cost increases, and meeting provincial CleanBC targets.

156. Since 2010, FEI has developed the existing RNG Program into the most significant and longest running program of its kind in North America. In the first full year of the Program (2011), FEI delivered 41 thousand GJ of RNG to its customers.[211] In 2021, FEI saw the greatest increase to both the number of suppliers and the volume of supply since the Program's inception.[212] As shown in the figure below, FEI's updated supply forecast demonstrates continued growth in RNG supply.

Figure 5-1: Updated RNG (Biomethane) Supply Forecast



By continuing to actively consider and mitigate potential procurement barriers, FEI expects that there will be sufficient RNG supply to serve the demand associated with the revised Renewable Gas Program, while also reducing GHG emissions consistent with the targets established by CleanBC.

---

[211] Exhibit B-11, Application, p. 72.

[212] Exhibit B-11, Application, p. 72.

A. Third-Party Supply Potential Studies Confirm Sufficient Supply to Meet Program Requirements

157. Under the GGRR, FEI is enabled to acquire RNG from both within and outside of British Columbia. In this section, FEI explains how it used the *BC Renewable and Low-Carbon Gas Supply Potential Study* (Potential Study)[213] to validate the utility's understanding of RNG's technical supply potential and associated production costs. The Potential Study, along with earlier studies, support FEI's submission that, even when applying a conservative outlook, there is ample RNG supply to serve FEI's Renewable Gas Program customers over the 5 years within scope of this proceeding.[214]

(a) BC Renewable and Low-Carbon Gas Supply Potential Study Provides the Most Recent and Most Accurate View of RNG Supply Potential

158. As summarized in the report commissioned by the BCUC and prepared by the Brattle Group (Brattle),[215] there have been several studies addressing potential RNG supply over both the short and longer terms. FEI relied on available research data to gauge the RNG market supply potential, including various studies that forecast the range of achievable RNG supply potential.[216] For the reasons set out below, FEI submits that the Potential Study provides the most-accurate means of assessing the short-term technical RNG supply potential for the purposes of this proceeding.

159. First, given the pace of change in the industry, the Potential Study, which was prepared for the Province (among others), and published in 2022, is the most-recent study and properly

---

213 This study was prepared by Evint Consulting and Canadian Biomass Energy Research Ltd. and commissioned by the Bioenergy Network (BCBN), the provincial government, and FortisBC, to estimate the technical supply potential and production costs of renewable and low-carbon gases in BC, Canada, and the United States: https://www.cdn.fortisbc.com/libraries/docs/default-source/news-events/bc-renewable-and-low-carbon-gas-supplypotential-study-2022-03-11.pdf.

214 Exhibit B-17, BCUC IR1 2.1.

215 Exhibit A2-4, Brattle Evidence.

216 Exhibit B-11, Application, pp. 79-80.

considers a diverse range of pathways to develop renewable and low carbon gases, including RNG.[217]

160. Second, unlike the Brattle report, which only provides a survey of the results of past studies and does not include its own research on the amount of RNG supply,[218] the Potential Study projects and analyzes the technical supply potentials of various supply resources. This analysis was used to develop 'Minimum' and 'Maximum' scenarios which set out a plausible range of supply based on a number of variables, including: cost assumptions, carbon taxes, feedstock availability, gas mix eligibility, technological readiness, build-up of new gas facilities, among others. These scenarios reflect both pessimistic and optimistic views, recognizing the potential for supply to develop differently based on these variables.[219]

161. Third, the Potential Study does not limit the *potential* of certain sources of RNG (e.g., RNG supply converted from woody biomass) on the basis of their current *feasibility*. This contrasts with the approach adopted by Brattle in assessing the results of past studies which does not account for technology evolution or shifts in policy related to the use of RNG which could increase potential.[220] FEI submits technological evolution cannot be discounted at this time. As FEI explained in its Rebuttal Evidence to Brattle:[221]

> … the technology to produce more RNG with local feedstocks already exists and improved processes are being developed that could ultimately improve efficiencies or lower costs. As these technologies need to be shown to be able to operate cost-effectively at scale, utility and/or government partnerships may be necessary to realize their full potential. However, as the technology matures and, possibly, more advanced technologies with lower capital costs become available after 2030, gas production costs from these pathways are expected to decrease. Ultimately, given that the importance placed on decarbonization by governments across North America continues to increase, the potential of these sources of supply should not be discounted. [emphasis added]

---

217 Exhibit B-63, Rebuttal Evidence to Brattle, p. 3.

218 Exhibit B-63, Rebuttal Evidence to Brattle, p. 1.

219 Exhibit B-63, Rebuttal Evidence to Brattle, p. 4.

220 For example, the 2017 Hallbar Consulting study, reviewed by Brattle, suggests up to 93.6 PJ of supply from wood if feedstock is available. Even so, Brattle does not report on this value even though there is ongoing development work in this area: Exhibit B-63, Rebuttal Evidence to Brattle, p. 1.

221 Exhibit B-63, Rebuttal Evidence to Brattle, pp. 1-2.

Moreover, the challenges of overcoming barriers to wood-based RNG supply are not unique to this form of energy, as sizeable challenges to all low and no-carbon energy carriers exist in achieving net zero emissions.[222]

(b) Even Pessimistic Scenarios Suggest Ample Supply of Renewable and Low Carbon Gases

162. When only considering supply resources from within British Columbia, the Potential Study estimates that between 24.7 PJ (Minimum Scenario) and 49.7 PJ (Maximum Scenario) of renewable and low carbon gases could be produced by 2030.[223] The Minimum Scenario, for example, is based on pessimistic assumptions with respect to the availability and cost of supply by 2030 (i.e., slower than expected development timeline of new supply and higher costs).[224]

163. Excluding additional potential renewable gas supplies such as wood waste from the forestry sector, the study also projects between 5.7 PJ and 6.6 PJ of RNG production per year in British Columbia by 2030.[225] This increases considerably with the inclusion of woody biomass – an additional 15 PJ (Minimum Scenario) to 89 PJ (Maximum Scenario) – which, as explained above, has a very high technical potential and should not be discounted in the assessment of supply potential.[226]

164. While FEI supports the long-term development of as much RNG from within BC as possible, it anticipates primarily acquiring out of-province supply in order to reach the total anticipated volume of RNG.[227] The Potential Study estimates that RNG potential in Canada will be approximately 70 PJ and 590 PJ in the United States per year by 2030.[228]

165. There are also a number of reasons to expect forecast supply to exceed pessimistic estimates. For example, the current use of organic waste (e.g., for the production of electricity)

---

222 Exhibit B-63, Rebuttal Evidence to Brattle, p. 2.

223 Potential Study, Tables 29 and 30 (p. 92); Exhibit B-63, Rebuttal Evidence to Brattle, p. 4; Exhibit B-17, BCUC IR1 2.3.

224 Exhibit B-17, BCUC IR1 2.1.1.

225 Exhibit B-79, BCUC IR1 1.2 Rebuttal Brattle.

226 Potential Study, Table 27 (p. 91); Exhibit B-63, Rebuttal Evidence to Brattle, p. 2.

227 Exhibit B-17, BCUC IR1 2.1.1.

228 Potential Study, Table 3 (p. 23) and Table 5 (p. 25); see also Exhibit B-17, BCUC IR1 2.1.

does not preclude these sources from being used as RNG in the future – as has already occurred with digesters in Ontario converting from electricity to RNG projects.[229]

166. Ultimately, when all sources of Renewable Gas are considered, FEI is confident that there is ample supply to meet estimated demand by 2030 and beyond. Figure 5-4 of FEI's Evidentiary Update includes FEI's latest forecast RNG supply and demand to 2030, which shows ample supply in excess of demand from Voluntary and Renewable Gas Connections customers, which will be sold to customers through the Renewable Gas Blend.[230]

B. FEI Has a Diverse Portfolio of Supply Projects to Mitigate Supply Risk

167. The success of the existing Renewable Gas Program would not have been possible without the development of RNG production capacity through a network of suppliers across North America.[231] This includes supporting and strategically procuring Renewable Gas from within British Columbia, Canada and the United States, thus enabling the direct displacement of conventional natural gas within the existing natural gas system.[232]

168. In British Columbia, FEI has played a leadership role in advancing RNG supply by: [233]

- Coordinating with both local governments and the private sector to invest in RNG supply projects;
- Collaborating with the provincial government to further develop opportunities in investment and financing for supply projects;
- Securing approval for the Clean Growth Innovation Fund (CGIF) [234] from the BCUC; and
- Issuing a green bond in 2020 to provide low-cost capital for RNG supply projects.

---

229 Exhibit B-20, CoR IR1 8.2.

230 Exhibit B-89, Evidentiary Update, p. 15.

231 Exhibit B-11, Application, p. 71.

232 FEI is currently acquiring RNG from BC, Alberta, Ontario and the United States. It has no plans to acquire RNG from jurisdictions outside of Canada or the United States: Exhibit B-22, CEC IR1 35.1 and Exhibit B-43, CEC IR2 66.2; see also Exhibit B-43, CEC IR2 66.1.

233 Exhibit B-28, TransLink IR1 6.2.

234 To advance RNG innovation and the adoption of technologies that will increases supply and/or lower costs.

169. FEI also continues to explore a variety of business-to-business measures to ensure the growth of RNG supply volumes,[235] while proactively identifying potential policy barriers related to the accounting of environmental attributes.[236]

170. Despite strong incentives to develop projects in British Columbia, including opportunities for developers to take advantage of local funding and/or grants,[237] purchasing RNG from outside of British Columbia diversifies FEI's RNG supply portfolio and has kept RNG pricing competitive.[238] This portfolio approach, which involves acquiring supply from a number of sites (e.g., the Archaea BPA[239]), provides valuable supply certainty.[240]

171. Beyond its efforts to support and secure stable and cost-competitive RNG supply, FEI has forecast the amount of RNG it will be able to acquire using the experience it has gained developing its existing supply. FEI's Renewable Gas forecast builds on the existing expected RNG projects, adding potential projects from that point forward. In particular, FEI's supply forecast reflects: (1) expected volumes from FEI's operating RNG projects; (2) expected volumes from executed and accepted RNG agreements; (3) volumes from known prospective, potential supply projects to augment future RNG supply; and (4) small amounts of hydrogen, lignin and syngas.[241] While the scope of this proceeding is limited to the short-term (5 years) forecast supply of RNG, FEI remains committed to acquiring hydrogen, syngas and lignin, which will be addressed in future applications.

---

235 Exhibit B-28, TransLink IR1 6.1.

236 Exhibit B-42, BCUC IR2 47.1.

237 Exhibit B-29, MS2S IR1 3.ix.

238 Exhibit B-17, BCUC IR1 2.2; Exhibit B-42, BCUC IR2 47.1.

239 On March 15 2022, the BCUC accepted the Archaea BPA. This BPA consolidates supply from multiple projects. At least one of the projects included in the agreement is currently operating, and is expected to begin supplying RNG in the summer of 2022. The agreement will give FEI access to as much as 2,000 TJ of additional RNG supply before the end of 2023 and is projected to provide between 7,000 and 8,000 TJ of RNG by year 4 of the agreement (2026): Exhibit B-17, BCUC IR1 5.2.

240 Exhibit B-42, BCUC IR2 47.1.

241 Exhibit B-19, BCSEA IR1 15.3.

172. As part of the above forecasting methodology, FEI estimates supply on a project-by-project basis, considering a number of factors assuming a steady state of operation.[242] For example, in FEI's experience most facilities generally operate below expected volumes for the first year, with increased volumes in the second year of production, followed by maximum expected volumes in the third year of operation.[243] Where a facility is not yet operational, FEI employs different forecasting approaches. For example, FEI generally only includes 75 percent of a facility's maximum annual volume in its projections where facilities are not yet built or in-service.[244] In other cases, FEI employs a more conservative approach,[245] leveraging its experience to determine the most-accurate approach. Further, by acquiring supply from a network of suppliers, FEI is able to mitigate the supply risk that occurs when suppliers are in the process of ramping up to reach their expected supply volumes.

C. FEI Has Considered Increased Demand for RNG from Other Jurisdictions

173. As outlined above, FEI has contracted RNG volumes from a number of projects spread across the contiguous North American natural gas system.[246] While this approach creates the potential for competition from other jurisdictions also seeking access to RNG supply, the advantages to acquiring supply from a range of supply facilities far outweigh this risk. In particular, in addition to gaining access to a larger pool of supply, a range of projects across a number of jurisdiction can enable lower costs, thus lowering the impact of acquiring RNG on the rates paid by FEI's customers.[247] FEI has also endeavoured to mitigate the risk posed by competition in the RNG market by being an attractive purchaser for suppliers by, in particular: (1) providing a known and transparent process for contracting RNG; (2) balancing the priorities

---

242 Exhibit B-17, BCUC IR1 5.1.1.1.

243 Exhibit B-17, BCUC IR1 5.1.

244 Exhibit B-17, BCUC IR1 5.1.1.

245 For example, for the Columbia-Shuswap Regional District Landfill uses the actual current RNG production, even though over the life of the project there may be future higher volumes: Exhibit B-17, BCUC IR1 5.1.1.

246 Exhibit B-29, MS2S IR1 3.ix.

247 Exhibit B-29, MS2S IR1 3.ix; see also Exhibit B-17, BCUC IR1 2.2.

of prospective suppliers by entering into agreement with long-term offtake agreements; and (3) paying fair market prices. As FEI explained:[248]

> If an RNG supplier developing a new project can enter into a long-term agreement, with a purchaser with high credit quality, such as FEI, this can help secure lender financing. The supplier will also be seeking a fair price to achieve a reasonable financial return on its capital invested. A related part of the evaluation is ensuring a fair contract to address the risk of default for non-performance.

All of these considerations are desirable for suppliers who perceive any regulatory process as a hurdle and timeline risk.[249] Importantly, FEI does not believe there will be a change in its forecast for existing supply because of the certainty provided by long-term supply agreements of this kind.[250]

174. FEI nonetheless remains cognizant that political ambition to reduce GHG emissions is likely to increase over time, including driven by increasingly stringent GHG reduction polices. In practice, however, the pace of implementing GHG-limiting programs, and the role of RNG in such programs, has varied significantly. As FEI explained in its Rebuttal Evidence to Brattle:[251]

> As other Canadian and U.S. gas utilities start offering offtake agreements similar to those offered by FEI, FEI expects that its "first-mover" advantage will decline. However, it is also likely that the increased demand will stimulate development and investment in additional supply. Furthermore, the *Inflation Reduction Act* (IRA), passed by Congress and President Biden in August of 2022, will spur development of low carbon energy supply due to an expected $370 billion per year in new funding. Within the IRA, there is a specific focus on investment tax credits and production tax credits for varying forms of renewable energy including biodiesel, renewable diesel, alternative fuels, clean hydrogen production, landfill gas and biomass.

Therefore, while the demand for RNG will likely increase across North America, FEI does not believe it will increase relative to other low-carbon energy types.[252]

---

248 Exhibit B-43, CEC IR2 67.2.

249 Exhibit B-63, Rebuttal Evidence to Brattle, p. 6.

250 Exhibit B-42, BCUC IR2 47.4.

251 Exhibit B-63, Rebuttal Evidence to Brattle, p. 6.

252 Exhibit B-42, BCUC IR2 47.4.

175. Finally, as demonstrated in Part Five, Section A above, studies in Canada and the United States support FEI's view that the supply potential for RNG is likely to exceed any growth in demand associated with increasingly ambitious GHG-reduction policies to 2030. Nor does FEI expect there to be a material decline in the amount of organic waste or wood-based resources suitable for the production of RNG.[253]

176. Ultimately, and particularly in the short-term (5 year) timeline within the scope of this proceeding, FEI anticipates that demand for RNG will be met with additional market activity to expand supply.[254]

D. FEI is Managing its Supply Portfolio to Keep the Cost of RNG as Low as Possible

177. FEI is working to secure biogas-derived Renewable Gas supply, including RNG, early in this decade rather than waiting for the market to mature further in order to ensure continued access to supply at reasonable costs.[255] As outlined above, FEI has sought to source supply from as broad a diversity of suppliers as possible, which has enabled it to receive competitive pricing. This has included negotiating long-term off-take agreements which effectively locks in pricing over a time horizon in the range of 10 to 20 years.[256] Given this approach, FEI does not anticipate any significant price increases other than inflation built into the existing RNG supply agreements for the following reasons.[257]

178. First, FEI has managed to procure supply from outside of BC at lower average prices and higher average volumes. Second, FEI already has already contracted a considerable amount of supply, owing to its role as a first mover, thereby locking in pricing until beyond 2030. In particular, FEI actively and diligently negotiates each of its RNG supply projects to ensure the best value for customers.[258] To date, there has also been sufficient competition between suppliers

---

253 Exhibit B-24, CoV IR1 3.1 and Exhibit B-43, CEC IR2 65.1.

254 Exhibit B-42, BCUC IR2 47.4.

255 Exhibit B-11, Application, p. 81.

256 Exhibit B-18, Brightside IR1 16i.

257 Exhibit B-22, CEC IR1 35.2.1.

258 Exhibit B-22, CEC IR1 35.2.

that the cap price set in the GGRR has not been a material factor as part of FEI's negotiations with suppliers.[259]

179. Beyond its efforts to secure supply to date, and given the rapid evolution of technology and the scale-up of Renewable Gas production needed to meet GHG emission reduction goals, FEI also expects that there will also be opportunities to acquire lower cost supply in the future.[260]

E. FEI is Well-Positioned to Meet CleanBC Targets

180. FEI is well-positioned to further accelerate the growth of its Renewable Gas supply portfolio to exceed the 15 percent Renewable Gas target set through the CleanBC Plan, and is well-positioned to acquire more Renewable Gas to meet the additional targets arising from the CleanBC Roadmap. The GGRR also enables FEI to purchase or produce sufficient Renewable Gas to meet these targets.

181. As explained in Section 6.3.2 of the Application, FEI is already significantly ramping up its Renewable Gas supply and will acquire more to meet its obligations under the CleanBC Roadmap.[261] As of February 2023, and based upon its existing accepted biomethane purchase agreements, FEI's total amount of expected supply is already just over 19.5 PJ. This amount exceeds the output of BC Hydro's Site C dam,[262] is equivalent to over 8 percent of total system throughput, and constitutes more than half of the amount allowed currently to meet the 15 percent Renewable Gas target set by CleanBC.[263] Therefore, FEI anticipates that it will meet its 15 percent Renewable Gas target by 2030 and higher volumes of between 45 and 65 PJ, along with other initiatives from FEI, will enable the utility to meet the objectives of the more recent CleanBC Roadmap.[264]

---

259 Exhibit B-18, Brightside IR1 12ii.

260 Exhibit B-11, Application, p. 82.

261 Exhibit B-29, MS2S IR1 1.vi.

262 Exhibit B-39, CoR IR2 22.2.

263 Exhibit B-63, Rebuttal Evidence to Brattle, p. 6; Exhibit B-11, Application, p. 75.

264 Exhibit B-19, BCSEA IR1 15.2; Exhibit B-26, Creative Energy IR1 2.1.

PART SIX: CONCLUSION

182. As one of only a few low-carbon energy solutions, RNG will be needed to ensure the Province's ambitious GHG emission reduction objectives are met. The revised Renewable Gas Program leverages the decades of investment in FEI's existing gas delivery system while addressing governmental climate policies, customer needs for RNG, and the significant increase in RNG that FEI is acquiring to reduce GHG emissions in alignment with government policy. FEI's extensive and comprehensive public consultation has resulted in proposals that are supported by a diverse range of customers and other stakeholders, and a rate design that is based on accepted ratemaking principles and supported by the independent expert Mr. Reed of Concentric. FEI submits that its Application is just and reasonable and in the public interest and respectfully requests its approval.

183. FEI will be continuing to report to the BCUC on the Renewable Gas Program in multiple proceedings, including through the submission of biomethane purchase agreements, annual contracting plans, and various rate setting processes. In addition, FEI proposes that in five years after a final decision by the BCUC in this proceeding, FEI will file a review of the Renewable Gas Program with any proposed adjustment that may be needed.[265]

ALL OF WHICH IS RESPECTFULLY SUBMITTED

Dated: October 26, 2023 ***[original signed by Chris Bystrom]***
Chris Bystrom
Counsel for FortisBC Energy Inc.

Dated: October 26, 2023 ***[original signed by Tariq Ahmed]***
Tariq Ahmed
Counsel for FortisBC Energy Inc.

Dated: October 26, 2023 ***[original signed by Niall Rand]***
Niall Rand
Counsel for FortisBC Energy Inc.

[265] Exhibit B-11, Application, Section 9.5.