



Diane Roy
Vice President, Regulatory Affairs

Gas Regulatory Affairs Correspondence
Email: gas.regulatory.affairs@fortisbc.com

Electric Regulatory Affairs Correspondence
Email: electricity.regulatory.affairs@fortisbc.com

FortisBC
16705 Fraser Highway
Surrey, B.C. V4N 0E8
Tel: (604)576-7349
Cell: (604) 908-2790
Fax: (604) 576-7074
www.fortisbc.com

May 16, 2022

Borden Ladner Gervais LLP
1200 Waterfront Centre
200 Burrard Street, P.O Box 48600
Vancouver, B.C.
V7X 1T2

Attention: Mr. Rick Williams

Dear Mr. Williams:

**Re: FortisBC Energy Inc. (FEI)
Revised Renewable Gas Program Application – Stage 2 (Application)
Response to the City of Vancouver (CoV) Information Request (IR) No. 1**

On December 17, 2021, FEI filed the Application referenced above. In accordance with the amended regulatory timetable established in British Columbia Utilities Commission Order G-103-22, FEI respectfully submits the attached response to the CoV IR No. 1.

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

If further information is required, please contact the undersigned.

Sincerely,

FORTISBC ENERGY INC.

Original signed:

Diane Roy

Attachments

cc (email only): Commission Secretary
Registered Parties

FortisBC Energy Inc. (FEI or the Company) Revised Renewable Gas Program Application – Stage 2 (Application)	Submission Date: May 16, 2022
Response to City of Vancouver (CoV) Information Request (IR) No. 1	Page 1

1 **1.0 Reference: ACCOUNTING TREATMENT, PROGRAM MECHANICS, RATE**
2 **SETTING AND CUSTOMER BILL IMPACT**

3 **Exhibit B-11, Section 8.7, pp.125-126**

4 **Mitigating Risks of Demand and Supply Balancing**

5 On pages 125-126 of the Application, FEI states:

6 FEI will manage the variability in both supply and demand to mitigate risks. As
7 FEI's sources of Renewable Gas become more diversified, the supply side risk is
8 reduced. Supply mitigation strategies are described in Section 6.4. To manage the
9 variations in demand to ensure both the continuity of the service and the integrity
10 of the offerings, FEI may use several options. These include the following, which
11 are applicable to the Voluntary offerings:

- 12 • Explore the potential to increase available supply;
- 13 • The use of purchased carbon offsets;
- 14 • Pause new enrolments into the Voluntary Program; and
- 15 • Service curtailment.

16 1.1 Please indicate if the bulleted list of options on page 126 is a hierarchy for FEI
17 decision making (i.e. a ranking in descending order of priority).

18 1.1.1 If so, please explain the reason for the respective rankings and how this
19 will work in practice, including an explanation of the decision- making
20 framework FEI will use to move from one option to the next.

21 1.1.2 If it is not a hierarchy, please describe what decision-making framework
22 FEI will use to determine the supply mitigation strategy(ies) to employ.

23

24 **Response:**

25 No, the bulleted list of options is not a hierarchy for FEI decision making. Please refer to the
26 response to BCUC IR1 10.2 which explains how FEI will manage supply and demand.

27

28

29

30 1.2 Please describe what efforts FEI has made to-date to “explore the potential to
31 increase available supply”.

32

1 **Response:**

2 As explained in the response to BCUC IR1 2.1, FEI is confident that there is ample supply to meet
3 demand by 2030. The *BC Renewable and Low Carbon Gas Supply Potential Study*¹ provides the
4 following outlook:

- 5 • Canadian sourced supply of RNG derived from anaerobic digestion alone could account
6 for 70 PJ by 2030.
- 7 • Renewable and low-carbon gases in BC could be as high as 444 PJ by 2050.
- 8 • 590 PJ of renewable natural gas from anaerobic digestion is available for import from the
9 United States.

10 FEI has also taken a number of steps to ensure sufficient RNG supply, as described below.

- 11 • FEI was a pioneer in the RNG market when it was the first natural gas company in North
12 America to offer RNG to customers in 2011. Much of the industry in North America uses
13 modifications of the methods FEI developed for accounting for supply and demand. As a
14 result, FEI has been a leader in the industry for more than ten years and is recognized as
15 such.
- 16 • FEI has had requests for RNG supply in the market starting as early as 2008 and has had
17 an open call since 2018. Similarly, since 2018, suppliers have been asked to submit an
18 application form with information that allows FEI to assess their projects for FEI's RNG
19 supply portfolio.
- 20 • FEI has used various forms of marketing, including: email blasts, association newsletters,
21 conferences, and word of mouth to encourage prospective suppliers to submit
22 applications. As of today, FEI is the largest utility buyer of RNG in North America, which
23 has established the utility within the RNG market.
- 24 • FEI has contributed to past studies for RNG potential both in BC and nationally with the
25 Canadian Biogas Association, the provincial government and other utilities.
- 26 • FEI has established the model to bring supply from out of province (in a similar way to
27 conventional natural gas), which has significantly increased potential supply. In 2020, the
28 first supply agreement was accepted for out of province supply from Canada and in 2021
29 the first agreements from the United States were accepted. In January 2022, FEI reached
30 agreement with Archaea Energy for what is the largest RNG supply agreement in the world
31 for up to 8 PJ per year of supply to be attained within the next four years.
- 32 • In 2021, the GGRR was updated to include hydrogen, syngas and lignin and also
33 acceptance of a model that FEI developed where that gas could displace conventional
34 natural gas at the industrial site.

¹ https://www.cdn.fortisbc.com/libraries/docs/default-source/about-us-documents/renewable-gas-study-final-report-2022-01-28.pdf?sfvrsn=cb5ca1fd_0.

FortisBC Energy Inc. (FEI or the Company) Revised Renewable Gas Program Application – Stage 2 (Application)	Submission Date: May 16, 2022
Response to City of Vancouver (CoV) Information Request (IR) No. 1	Page 3

1 FEI will continue to innovate and increase its access to low carbon gas supply.

2
3

4

5 1.3 How will FEI select carbon offsets to purchase, and what assurances would
6 customers have that they represent real, permanent and additional carbon
7 reductions?

8

9 **Response:**

10 FEI has historically used carbon offsets in a limited way to balance supply and demand of RNG
11 as the program developed. When FEI uses carbon offsets, it ensures they are from reputable BC
12 sources first. If not available, FEI has used carbon offsets from Canadian sources. These offsets
13 are used to ensure that an equivalent amount of carbon reduction to RNG use occurs. Despite
14 using carbon offsets in the past, RNG supply is increasing significantly, and FEI does not expect
15 to use offsets in a significant way in the future.

16 FEI agrees that it is important that any measures taken, including the use of offsets, must have
17 real, permanent and additional carbon reductions.

18 Please also refer to the responses to Creative Energy IR1 4.2, and IR1 series 5.

19

20

21 1.4 Has FEI identified any other options “applicable to the Voluntary offerings” that it
22 may use to “ensure both the continuity of the service and the integrity of the
23 offerings”?

24 1.4.1 If so, please describe what FEI has done to-date to investigate the
25 option(s).

26 1.4.2 Please provide any reports, studies or materials relating to these
27 investigations.

28

29 **Response:**

30 Please refer to the response to BCUC IR1 10.2 which explains how FEI would ensure the
31 continuity of the service and the integrity of the offerings.

32

1 **2.0 Reference: PROVINCIAL GOVERNMENT POLICIES**
2 **Exhibit B-11, Section 3.4.1.4, p. 31**
3 **CleanBC Roadmap - Industrial Sector**

4 On page 31 of the Application, FEI states:

5 The CleanBC Roadmap sets out that all new large industrial facilities need to have
6 a plan to achieve net-zero emissions by 2030 and demonstrate alignment with
7 BC’s interim 2030 and 2040 targets. Moreover, emitters of methane will be
8 required to reduce their emissions 75 percent by 2030 and have emissions close
9 to zero by 2035. FEI will explore opportunities for Renewable Gas to serve these
10 sectors as they seek low-carbon alternatives.

11 2.1 Please describe how Renewable Gas can reduce methane emissions.

12
13 **Response:**

14 Please refer to the responses to CEC IR1 3.2 and 29.1, BCSEA IR1 3.1, 3.4 and 3.6.

15
16

17
18 2.2 Does FEI consider that all renewable gases are equally capable of providing those
19 reductions?

20 2.2.1 If not, please explain why not.

21
22 **Response:**

23 While the GHG emissions reduction per gigajoule of Renewable Gas may vary depending upon
24 its source and its associated carbon intensity, there will nonetheless be a reduction in emissions
25 associated with displacing or replacing conventional natural gas, as FEI purchases Renewable
26 Gas from facilities that have a lower emissions factor than conventional natural gas.

27
28

29
30 2.3 Which renewable gases would be used to reduce industrial methane emissions?
31

32 **Response:**

33 There are a number of strategies to reduce methane emissions which can be employed by
34 industrial customers. Strategies typically include detecting and mitigating methane leaks,
35 amending equipment operations practices to reduce venting, and upgrading gas controls and
36 equipment. Renewable fuels like lignin, syngas and hydrogen may also contribute to reducing
37 methane emissions at industrial facilities. Finally, all renewable gases that are used to displace

FortisBC Energy Inc. (FEI or the Company) Revised Renewable Gas Program Application – Stage 2 (Application)	Submission Date: May 16, 2022
Response to City of Vancouver (CoV) Information Request (IR) No. 1	Page 5

1 conventional natural gas avoid methane emissions associated with upstream oil and gas
2 production and transport.

3
4

5

6 2.4 What “opportunities for Renewable Gas to serve these sectors” has FEI explored
7 to date?

8 2.4.1 Please describe the analysis for each.

9 2.4.2 If none, please identify and describe any opportunities FEI is currently
10 aware of.

11

12 **Response:**

13 FEI is currently exploring all opportunities available under the GGRR to serve customers seeking
14 low-carbon alternatives. Due to the commercial nature of current discussions, FEI is not able to
15 disclose more specific details related to projects and prospective partners. However, broadly
16 speaking, FEI has identified opportunities in the pulp and paper sector for kraft mills to produce
17 and consume Renewable Gas in the form of syngas and hydrogen, as discussed in the *BC*
18 *Renewable and Low-Carbon Gas Supply Potential Study*.² Additional opportunities are also
19 available for large industrial consumers, such as in the cement sector, to supply Renewable Gas
20 to decarbonize cement production.

21

² <https://www.cdn.fortisbc.com/libraries/docs/default-source/about-us-documents/renewable-gas-study-final-report-2022-01-28.pdf>.

1 **3.0 Reference: FEI'S SHORT AND LONG-TERM SUPPLY FORECAST TO MEET THE**
2 **CLEAN BC PLAN**

3 **Exhibit B-11, Section 6.3.2.2, page 80**

4 **Long-Term Supply Forecast: 2027-2032**

5 On page 80 of the Application, FEI states:

6 As discussed in Section 6.3.2 above, FEI has forecast an increase in alternative
7 forms of Renewable Gas (i.e., hydrogen, synthesis and lignin). These gases are
8 expected to be produced at an achievable scale of up to 400 PJs per year in BC,
9 entering the supply mix beginning in 2024/2025 and increasing until 2032,
10 reflecting the province's abundant natural resources.

11 3.1 Did FEI in developing its forecast consider the effect of competition for wood
12 products that are increasingly used in mass timber and other low-carbon
13 construction materials in these forecasts?

14 3.1.1 If so, please describe that analysis and provide any reports, studies or
15 other materials related to the analysis and describe the results.

16 3.1.2 If not, please explain why it was not considered.
17

18 **Response:**

19 The majority of wood-based resources used to produce Renewable Gas consist of wood waste,
20 and surplus pulp logs which are not suitable for building construction applications. Please refer to
21 the *BC Renewable and Low-Carbon Gas Supply Potential Study*,³ which highlights the significant
22 amount of Renewable Gas that will be available to be converted from woody biomass. In
23 particular, the study considered overall supply of wood fibre and competing uses for wood fibre in
24 developing its supply scenarios.

25 The study also analyzes the achievable scale from different wood-based feedstocks, in which the
26 theoretical resource potential represents the availability of various biomass feedstock types. The
27 technical resource potential estimates the capacity for each feedstock after accounting for a
28 number of factors including:

- 29 • Technological readiness;
- 30 • Geographical limitations;
- 31 • Transport constraints;
- 32 • Conversion efficiency;
- 33 • System assumptions; and

³ <https://www.cdn.fortisbc.com/libraries/docs/default-source/news-events/bc-renewable-and-low-carbon-gas-supply-potential-study-2022-03-11.pdf>

FortisBC Energy Inc. (FEI or the Company) Revised Renewable Gas Program Application – Stage 2 (Application)	Submission Date: May 16, 2022
Response to City of Vancouver (CoV) Information Request (IR) No. 1	Page 7

- 1 • Realistically achievable implantation rates.

2 These potentials are then factored into the study's Maximum and Minimum scenarios which
3 consider:

- 4 • Availability of wood fibre and competing uses;
- 5 • Timelines;
- 6 • Harvesting practices;
- 7 • Speed of deployment; and
- 8 • Different outcomes to resource availability.
- 9

10
11

12

13 3.2 Are forecasted price and supply of hydrogen, syngas or lignin sensitive to this
14 competition?

15 3.2.1 If so, please describe the degree to which these forecasts are potentially
16 impacted.

17

18 **Response:**

19 FEI expects that, over the long-term, all sources of Renewable Gas (including hydrogen, syngas
20 and lignin) will face competition from potential buyers. This will be similar to today's context where
21 there is a highly competitive market for electricity and natural gas commodities. FEI's projected
22 supply growth strategy for Renewable Gas aims to address the risk from potential competitive
23 pressures by diversifying its supply portfolio across different feedstocks and production pathways.
24 For example, by acquiring hydrogen, which can be produced from conventional methane or from
25 renewable electricity, FEI is spreading the competition risk across multiple commodity and energy
26 markets.

27

FortisBC Energy Inc. (FEI or the Company) Revised Renewable Gas Program Application – Stage 2 (Application)	Submission Date: May 16, 2022
Response to City of Vancouver (CoV) Information Request (IR) No. 1	Page 8

1 **4.0 Reference: GAS DELIVERY SYSTEM CAN DELIVER RAPID AND LONG- TERM**
2 **GHG REDUCTIONS**
3 **Exhibit B-11, Section 4.4.1, p.49**
4 **FEI’s Assets will Play a Role in Decarbonizing Important and**
5 **Difficult to Decarbonize Sectors in BC**
6 **and**
7 **PROPOSED RENEWABLE GAS PROGRAM**
8 **Difficult to Decarbonize Sectors in BC Exhibit B-11 Section 7, pp.84-**
9 **108**

10 On page 49 of the Application, FEI states:

11 FEI’s existing gas infrastructure serves important sectors of the economy in BC,
12 and is well-suited to deliver low-carbon solutions to difficult-to-decarbonize end-
13 uses, including the building, transportation and industrial sectors.

14 In Section 7 of the Application, FEI introduces the Revised Renewable Gas program and
15 lists four customer segments that will be subject to different renewable gas options:

- 16 1. New Residential Connections;
17 2. Sales customers;
18 3. NGV customers; and
19 4. T-Service customers

20 4.1 Please define “difficult-to-decarbonize”.

21
22 **Response:**

23 FEI’s use of the term “difficult to decarbonize” above was referring to the reduction of carbon
24 output from the building, commercial and industrial sectors, without unacceptably adverse effects
25 on performance or unacceptably high costs either to the energy consumer or to society at large.
26 Based on this definition, all of the sectors noted in the preamble are “difficult to decarbonize”.

27
28

29
30 4.2 Please describe how each of the customer segments described in Section 7 aligns
31 with a “difficult-to-decarbonize” sector of the economy.

32
33 **Response:**

34 For clarity, FEI believes that low carbon intensity gaseous fuel can be effectively used to
35 decarbonize applications that may be difficult to decarbonize with other energy types. A
36 description of “difficult to decarbonize” is provided in the response to City of Vancouver IR1 4.1.

FortisBC Energy Inc. (FEI or the Company) Revised Renewable Gas Program Application – Stage 2 (Application)	Submission Date: May 16, 2022
Response to City of Vancouver (CoV) Information Request (IR) No. 1	Page 9

1 All four customer segments noted are hard to decarbonize for a number of reasons, including but
2 not limited to:

- 3 • **Cost:** The cost of equipment, cost of conversion, and increased operating costs are all
4 factors that make decarbonizing all four sectors challenging.
- 5 • **Lack of Equipment:** There may be a lack of viable equipment, or the equipment (heating,
6 engines, boilers) using electricity may not be available. If they are available, their
7 performance may not meet the needs of the customer. Lastly, the cost of the equipment
8 may not be palatable to the customer.
- 9 • **Difficulty Changing Infrastructure:** In order to decarbonize all of the above sectors,
10 additional infrastructure is often required, including but not limited to vehicle purchase,
11 system/building piping and wiring changes, ducting, utility upgrades (pipes and wires to
12 serve the customer) and building envelope changes.
- 13 • **Lack of Customer Desire or Demand:** Customers may be very satisfied with the existing
14 energy source and not desire a change to a lower carbon energy source. Further, the
15 performance of the new lower carbon energy source may not meet the needs of the
16 customer.

17 As noted in the response to City of Vancouver IR1 4.1, it has been a challenge for society at large
18 to decarbonize. With the exception of a switch from coal to gas fired electrical generation, reducing
19 emissions has proven extremely difficult. This is further complicated by increasing demand on
20 energy from a growing economy. FEI believes that “we should use all tools in the tool box” to
21 decarbonize the BC economy. The more options available to decarbonize the better chance there
22 is of achieving the outcome.

23
24

25
26 4.3 Is it FEI’s position that new residential construction is “difficult-to- decarbonize”?

27 4.3.1 If so, please explain why.
28

29 **Response:**

30 Yes, the residential building sector is difficult to decarbonize. Prior to the introduction of
31 Renewable Gas as an option for carbon reduction, the only option available to most customers
32 was to use electricity as a primary source of heating. Even with its dominant position as a
33 decarbonization fuel, decarbonizing buildings with electricity is difficult. The slow pace of
34 decarbonization is evidenced by the policy, subsidization, capacity, customer preference and
35 reliability issues noted below. Please also refer to the responses to BCUC IR1 10.1 and 17.1.

- 36 • Significant changes to legislation, policy and actions by the City of Vancouver, other local
37 governments and the Province have been implemented to encourage residents to
38 decarbonize by using clean electricity. This is more fully described in Section 3 and
39 Appendix A of the Application. These actions taken by the government have the effect of

FortisBC Energy Inc. (FEI or the Company) Revised Renewable Gas Program Application – Stage 2 (Application)	Submission Date: May 16, 2022
Response to City of Vancouver (CoV) Information Request (IR) No. 1	Page 10

- 1 restricting the use of gas and encouraging or requiring low carbon solutions for which the
2 only realistic solution is electricity. If decarbonizing via electricity was easy, these policies,
3 bylaws and actions would not be required as the building community would adopt these
4 actions of their own accord.
- 5 • There are significant subsidization and incentives currently provided by BC Hydro, local
6 governments, including the City of Vancouver, and the federal and provincial governments
7 for builders to adopt electric heat pumps for home and building heating needs. For
8 example, BC Hydro’s website indicates customers could receive up a \$3,000 rebate from
9 CleanBC, a \$3,000 rebate top-up from BC Hydro, and \$5,000 in additional rebates from
10 the federal government’s Canada Greener Homes Grant. Rebates of between \$2,000 to
11 \$6,000 are also offered by the City of Vancouver. Further, municipal bylaws, such as those
12 in the City of Surrey, provide financial incentives for builders that do not connect to the
13 gas system. If the residential new construction sector was easy to decarbonize, there
14 would not be a need for these subsidies or incentives.
 - 15 • It can be difficult, and sometimes expensive, to ensure that there is adequate electrical
16 capacity for buildings to heat with electricity. At a recent Urban Development Institute
17 Panel discussion, it was noted that it was proving difficult to acquire the necessary
18 electrical capacity for a number of developments in Burnaby. This could mean that it is
19 not possible to use electricity, with relatively low carbon intensity, to heat homes in these
20 developments. Barring a Renewable Gas solution, there is no way to decarbonize these
21 buildings.
 - 22 • The BC Hydro system is near capacity during cold winter periods. Generation, and the
23 capacity to deliver the electricity, is required to meet customer needs. Further, adding
24 generation does not result in an increase in the ability to deliver electricity to an end use
25 customer. This is especially important during a peak energy use time. For example, on
26 December 27, 2021, BC Hydro was delivering 10,920 MWh of energy. According to
27 numerous news reports and BC Hydro directly, this was a peak for energy delivery.
28 However, at the same time FEI delivered 20,120 MWh. The gas system is designed to
29 better handle winter peak as there is the ability to “push” more gas through a pipe during
30 peak periods. However, if more consumers are required to use electricity, then additional
31 costs must be incurred to build, operate and maintain sufficient generation, transmission
32 and distribution resources to meet projected needs.
 - 33 • An electric-only solution to building decarbonization may not meet the needs of the
34 builder/home owner. The builder or home owner may not wish to have electrical heating
35 because, in addition to the challenges noted above, electrical heating may not meet the
36 aesthetic desires of the builder/home owner, or the home owner may have a preference
37 for gas heating.
 - 38 • Builders and home owners may not want to be restricted to only one low carbon heating
39 source as this could have future implications on costs, reliability, and resiliency. Two
40 options provide a choice that can benefit the home owner from a reliability and resiliency
41 standpoint.
42

FortisBC Energy Inc. (FEI or the Company) Revised Renewable Gas Program Application – Stage 2 (Application)	Submission Date: May 16, 2022
Response to City of Vancouver (CoV) Information Request (IR) No. 1	Page 11

1 **5.0 Reference: FEI IS DIVERSIFYING THE COMPOSITION OF ITS PORTFOLIO AND**
2 **PLANNING TO MEET THE CLEANBC PLAN TARGET**

3 **Exhibit B-11, Section 6.3.1.1, p.76 Renewable Natural Gas (RNG)**

4 **and**

5 **AN INFORMATION GUIDE ON PURSUING BIOMASS ENERGY**
6 **OPPORTUNITIES AND TECHNOLOGIES IN BRITISH**

7 **COLUMBIA (the “BC Bioenergy Guide”). June 2010 (updated May**
8 **2011), p. 26**

9 [https://bcbioenergy.ca/wp-content/uploads/2011/07/Bioenergy-](https://bcbioenergy.ca/wp-content/uploads/2011/07/Bioenergy-Guide-2010-final-updated-May-2011.pdf)
10 [Guide- 2010-final-updated-May-2011.pdf](https://bcbioenergy.ca/wp-content/uploads/2011/07/Bioenergy-Guide-2010-final-updated-May-2011.pdf)

11 On page 76 of the Application, FEI states that:

12 Existing BC Government policy considers RNG (biomethane) captured from
13 organic waste (including agriculture, landfill, or wastewater sources) to be a
14 carbon-neutral fuel source. In this context, carbon-neutral status means that both
15 combustion and life-cycle emissions do not contribute any net carbon dioxide
16 emissions to the atmosphere.

17 Footnote 78, on page 76 of the Application links to the BC Bioenergy Guide. On page 26,
18 the BC Bioenergy Guide states:

19 Note that the carbon contained in biomass is usually considered part of a
20 regeneration cycle and processes using biomass can therefore be considered
21 carbon neutral. However, any methane emissions should be avoided as they would
22 otherwise constitute GHG emissions.

23 5.1 Please clarify how methane leaks are accounted for in determining Renewable
24 Gas as "carbon neutral across its lifecycle".
25

26 **Response:**

27 Carbon neutral in this context refers to the burner tip emissions of carbon dioxide. Emissions of
28 carbon dioxide from the combustion of RNG are not a net increase in carbon dioxide as per the
29 BC Best Practices Methodology for Quantifying Greenhouse Gas Emissions.⁴

30 Methane emissions are better understood in the framework of a lifecycle emissions analysis. As
31 such, FEI uses the provincial standard lifecycle analysis model, GHGenius to determine the
32 lifecycle carbon intensity of Renewable Gas from its different supply projects. This model includes
33 methane emissions in the calculation of carbon intensity.

34

35

⁴ <https://www2.gov.bc.ca/assets/gov/environment/climate-change/cng/methodology/2020-pso-methodology.pdf>.

FortisBC Energy Inc. (FEI or the Company) Revised Renewable Gas Program Application – Stage 2 (Application)	Submission Date: May 16, 2022
Response to City of Vancouver (CoV) Information Request (IR) No. 1	Page 12

1
2 5.2 Please describe how FEI accounts for methane leaks in its expanded network
3 under the Renewable Gas Connections initiative.

4
5 **Response:**

6 Methane leaks are accounted for in the calculation of the carbon intensity of RNG, which is done
7 using the GHGenius model for each project.

8 In the production of RNG from biogas, losses of methane can be calculated based on the
9 difference between the measured volume of methane at the plant inlet subtracted by the volume
10 of methane injected as RNG. The main source of methane loss comes from incomplete separation
11 in the upgrading process, as some methane can be entrained in the exhaust gas. This methane
12 is destroyed using a flare or thermal oxidizer in facilities operated by FEI.

13 FEI requires the carbon intensity of RNG from its suppliers be calculated annually by a third party
14 using the GHGenius model. For new RNG contracts, a maximum carbon intensity is written into
15 the biomethane purchase agreement. If a supplier surpasses their maximum carbon intensity on
16 an annual basis, they would be in breach of the contract. In this way, methane emissions have to
17 be controlled by the supplier to fulfill their contractual obligations. They are also incented to do so
18 because the price of RNG is much higher than conventional natural gas. All RNG projects would
19 avoid any methane leaks associated with the production of conventional natural gas.

20 With respect to emissions associated with FEI's gas infrastructure, a number of initiatives have
21 been identified and are being undertaken to further reduce methane emissions within the
22 operation of the transmission, compression and distribution infrastructure as part of FEI's 30BY30
23 initiatives.

24
25

26
27 5.3 Did FEI consider the impact methane leaks will have in achieving FEI's emission
28 reduction obligations?

29 5.3.1 If so, please describe that analysis and its conclusions and provide any
30 reports, studies and materials related to the analysis.

31 5.3.2 If not, please explain why the impact of methane leaks was not
32 considered.

33

34 **Response:**

35 Yes, FEI considers methane leaks in the calculation of the carbon intensity of RNG from each
36 supplier. Specifically, FEI uses the provincial government's GHGenius model to calculate the
37 impact of methane emissions on the overall carbon intensity of RNG. Therefore, the carbon
38 intensity of Renewable Gas factors into the quantity of Renewable Gas required to meet provincial
39 targets.

40

- 1 **6.0** **Reference:** **INTRODUCTION AND APPROVALS SOUGHT Exhibit B-11, Section**
 2 **1.1, p.2**
 3 **Introduction and Overview**
 4 **and**
 5 **PROPOSED RENEWABLE GAS PROGRAM**
 6 **Exhibit B-11, Section 7, p.84-108**

7 On page 2 of the Application, FEI states:

8 FEI proposes modification to its existing Voluntary Renewable Gas offering
 9 whereby customers in all rate schedules can choose to purchase up to 100 percent
 10 Renewable Gas to meet GHG emission reduction targets. This service will enable
 11 FEI to continue to offer a low carbon gas solution to those customers that need to
 12 reduce their GHG emissions to meet internal or externally imposed targets. FEI is
 13 proposing modifications to extend the Voluntary Renewable Gas offering to Rate
 14 Schedule (RS) 7 customers, increase the price for Natural Gas Vehicle (NGV) and
 15 Transportation Service (T-Service) customers to equal the weighted average cost
 16 of Renewable Gas supply, and eliminate the \$1 per GJ discount for long-term
 17 contracts. The Voluntary Renewable Gas offering is essential for FEI to meet the
 18 needs of and retain customers who require higher volumes of Renewable Gas.
 19 Providing a low carbon gas solution for these customers will encourage the
 20 efficient use of the gas delivery system and provide energy choice for British
 21 Columbians.

22 Section 7 of the Application notes that new connections include both newly constructed
 23 buildings, and new customers who switch to gas from other energy sources such as
 24 heating oil. All of these customers will receive 100% Renewable Gas for the life of their
 25 building.

26 6.1 Please confirm that FEI’s Voluntary Renewable Gas offering does not provide
 27 those customers an option to be guaranteed to receive 100% Renewable Gas for
 28 the life of a building.

30 **Response:**

31 Confirmed.

32
33

34
 35 6.2 Please explain why Voluntary Customers, whether residential, commercial,
 36 industrial, NGV, or T-Service, would not be allowed to lock-in to 100% Renewable
 37 Gas for the life of their building?

FortisBC Energy Inc. (FEI or the Company) Revised Renewable Gas Program Application – Stage 2 (Application)	Submission Date: May 16, 2022
Response to City of Vancouver (CoV) Information Request (IR) No. 1	Page 14

1 6.2.1 What factors were considered in excluding each of these groups from this
2 option?

3 6.2.2 Please provide any reports, studies or material related to this analysis.
4

5 **Response:**

6 Although FEI understands that the City of Vancouver is exploring implementing such a
7 requirement, there is currently no policy or legislation requiring customers to utilize 100 percent
8 Renewable Gas in existing buildings. Therefore, unlike the new residential construction sector,
9 there was no underlying policy rationale for allowing customers to “lock in” to 100 percent
10 Renewable Gas for the life of their building as suggested in this information request.

11 A requirement by a local government requiring a customer to sign up for 100 percent Renewable
12 Gas when replacing a gas appliance amounts to a form of discrimination because customers
13 replacing equipment must change their underlying heating fuel source, while customers with
14 furnaces that are in working order or can be repaired can continue to receive service. A policy of
15 this kind may have a number of ancillary impacts on customer decision-making including but not
16 limited to encouraging customers to repair rather than replace existing equipment even if new gas
17 equipment would be more reliable and efficient. In addition, having onerous regulations of this
18 kind can result in customers taking action to avoid the regulation such as unpermitted equipment
19 replacement. Finally, FEI would have to design and seek approval of a program for existing
20 customers, who replace equipment, that is similar to the Renewable Gas Connections service.
21 Short of having such a program, a customer’s only option would be the Voluntary Renewable Gas
22 service. However, to ensure 100 percent Renewable Gas usage, a reporting and verification
23 system would be required, which would be inherently less efficient than a service that simply
24 provides Renewable Gas to all sales customers.

25 FEI has not incorporated a service offering into this Application that would address this
26 requirement as the City of Vancouver’s proposal remains in the consultation phase. However,
27 should the City of Vancouver, or other local governments, adopt such a requirement, FEI would
28 assess the steps the utility would need to take to ensure customers continue to have unfettered
29 access to the gas system (not unlike the process undertaken to develop the proposed Renewable
30 Gas Connections service for new residential connections).

31 Rather than imposing potentially costly requirements on end-users, FEI believes that a better
32 solution to address the GHG emissions of existing buildings is for all sales customers to receive
33 a blend of Renewable Gas (as proposed in the Application). Please refer to the response to CEC
34 IR1 53.1 where FEI notes that the CleanBC Roadmap contemplates requiring the gas utilities to
35 reduce emissions by 47 percent, a reduction that meets or exceeds the City of Vancouver’s
36 emission targets for example. FEI has designed the Renewable Gas Blend service so that all
37 sales customers will receive a volume of Renewable Gas without the need to upgrade or change
38 equipment. The introduction of increasing quantities of Renewable Gas can add up to significant
39 displacement of conventional natural gas. While each customer’s Renewable Gas volume blend
40 will be low to start, the blend will increase over time to meet provincial targets. Therefore, the
41 overall reduction in emissions will likely be much greater than could be accomplished by requiring
42 individual customers who change out a furnace to acquire 100 percent Renewable Gas.

FortisBC Energy Inc. (FEI or the Company) Revised Renewable Gas Program Application – Stage 2 (Application)	Submission Date: May 16, 2022
Response to City of Vancouver (CoV) Information Request (IR) No. 1	Page 15

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30

6.3 Did FEI consider and reject that allowing Voluntary Customers to lock-in to 100% Renewable Gas for the life of their building could enable those customers to use Renewable Gas to comply with emission reduction requirements for existing buildings?

6.3.1 If so, please describe that analysis and its conclusions and provide any reports, studies and materials related to the analysis.

6.3.2 If not, please explain why.

Response:

Please refer to the response to City of Vancouver IR1 6.2.

6.4 Does FEI accept that “locking-in” new connections to 100% Renewable Gas constrains the ability of existing customers to rely on the Voluntary program and/or obtain a 100% Renewable Gas supply?

Response:

No. By tying the delivery of 100 percent Renewable Gas to the building, rather than the customer, FEI is able to meet the policies of the City of Vancouver and other local governments that require permanency in low carbon energy solutions. In particular, the City of Vancouver requires that a program not be “opt in/opt out”.

Only a shortfall in Renewable Gas supply would constrain the ability of existing customers to rely on the proposed Voluntary Renewable Gas service to obtain 100 percent Renewable Gas supply. However, FEI will be monitoring customer demand closely, and will respond if it becomes apparent that more supply than is already being acquired to meet the provincial policy objective is required to satisfy voluntary demand.

1 **7.0 Reference: GROWTH IN RENEWABLE ENERGY SUPPLY Exhibit B-11, Section**
2 **6.2.2, pp. 73-75**

3 **Near-Term Supply Outlook Supports Meeting the CleanBC Plan**

4 On page 74 of the Application, FEI states:

5 Table 6-1 below provides details on all of FEI’s current contracted supply projects
6 and their associated volumes. The table includes projects that are providing RNG
7 in 2021 and projects that are anticipated to begin providing RNG in the near future.

8 7.1 Of the confirmed contracts for Renewable Gas, please identify and explain which
9 projects are additional in terms of new emission reduction potential.

10 7.1.1 If not wholly additional, please describe what proportion of the anticipated
11 delivery represents additional emission reductions.

12

13 **Response:**

14 All of FEI’s Renewable Gas projects are additional in that they all are replacing conventional
15 methane with methane that is already part of the carbon cycle. Part of the standard terms of FEI’s
16 Renewable Gas contracts include language in which the supplier attests to a carbon intensity that
17 conforms to the GHGenius calculation in the BC-LCFS. This ensures the project meets an
18 additionality test.

19

20

21

22 7.2 Of the confirmed contracts for Renewable Gas, please identify: (i) which projects’
23 feedstock comes from waste products or gases, and (ii) which projects’ feedstock
24 comes from materials produced for the express purpose of producing renewable
25 gas.

26

27 **Response:**

28 All of FEI’s currently confirmed contracts for Renewable Gas come from waste products.

29