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April 18, 2023

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

Attention: Christopher P. Weafer

Dear Christopher P. Weafer:

**Re: FortisBC Energy Inc. (FEI)**  
**Revised Renewable Gas Program Application – Stage 2 (Application)**  
**Response to Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1 on FEI's Rebuttal Evidence to the Brattle Group (Brattle)**

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On December 17, 2021, FEI filed the Application referenced above. In accordance with the amended regulatory timetable established in Exhibit A-47, FEI respectfully submits the attached response to CEC IR No. 1 on FEI's Rebuttal Evidence to Brattle.

If further information is required, please contact the undersigned.

Sincerely,

**FORTISBC ENERGY INC.**

***Original signed:***

Sarah Walsh

Attachments

cc (email only): Commission Secretary  
Registered Parties

1    1.    **Reference:    Exhibit B-63, Rebuttal to Brattle, A4**

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

The 2017 Hallbar Consulting study states at page 22:

The second long-term RNG production potential used estimated feedstock volumes, and assuming a market price of \$28/GJ and significant advancements in wood RNG technology. Development of commercially available technologies 31 to convert wood feedstock to RNG will significantly increase B.C.'s RNG production potential. For example, based on available suitable agricultural feedstocks (i.e., horse bedding, broiler litter, and turkey litter) and B.C. Hydro's forestry feedstock estimations, RNG production potential is estimated to be 51.3 PJ/year. If NRCan's forestry feedstock estimations are used, RNG production potential is estimated to be 93.6 PJ/year (Figure 5).

2

The *BC Renewable and Low-Carbon Gas Supply Potential Study* also finds that the renewable and low carbon gas from woody biomass has a very high technical potential. The Minimum and Maximum Scenario results from the study for woody biomass produced in British Columbia are set out in Table 27 of the study, as reproduced below.

**Table 27    Renewable Gas from Woody Biomass Produced in B.C. in Each Scenario (PJ per year, HHV)**

Wood Resource	MINIMUM SCENARIO		MAXIMUM SCENARIO	
	2030	2050	2030	2050
Unharvested AAC	-	-	4.6	4.6
Roadside residue related to above	-	-	2.1	4.0
AAC from mill closures	-	-	14	14
Roadside residue related to above	-	-	6.5	11
Unharvested pulp logs	3.6	3.6	4.0	4.0
Roadside residue related to above	0.4	0.6	0.4	0.6
Unused Roadside residue	6.0	10	5.9	10
Mill residue not used	4.8	4.8	4.8	4.8
Conversion of pellet plants	-	-	-	44
Expiring BC Hydro contracts	-	-	47	47
Urban wood waste (CLD)	-	-	-	-
<b>TOTAL</b>	<b>15</b>	<b>19</b>	<b>89</b>	<b>143</b>

*Note 1: The values in the table includes wood to methane, syngas and hydrogen.*

What is feasible and achievable in British Columbia with appropriate policies and investment could lie in between the Minimum and Maximum scenarios, as the supply potential of Renewable Gas that can be produced from woody biomass is constrained by resource availability and its distribution within the province.

3

4            1.1    Please elaborate on the 'resource availability' and 'distribution' constraints within  
5            the province.

6

7    **Response:**

8    "Resource availability" refers to the theoretical availability of woody biomass, taking into account  
9    the competition for the resource. The availability can vary widely based on the necessary quality

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1 of feedstock, the amount of waste (which depends on the ongoing harvest of wood to create the  
2 waste) and other uses which may compete for wood waste.

3 “Distribution” refers to the location of the sources of woody biomass. In order to be economically  
4 useful, the cost of harvest and transportation will need to be minimized. In addition, to minimize  
5 costs, creation of renewable gas from biomass must be located as close as possible to existing  
6 natural gas infrastructure (such as pipelines).

7  
8

9  
10 1.2 The CEC notes that the excerpt from the Halibar study (NRCan feedstock)  
11 suggests that RNG production potential and the BC Renewable and Low Carbon  
12 Gas Supply Potential Study both appear to suggest a maximum of about 90  
13 PJ/Year by 2030. Would FEI consider 50 PJ/year to be a reasonable middle  
14 estimate for 2030? Please explain why or why not.

15 1.2.1 If no, can FEI provide another appropriate estimate?  
16

17 **Response:**

18 Yes, FEI considers 50 PJ to be a reasonable middle estimate for the following reasons.

19 First, given that there are still unknown variables that may affect actual production, 50 PJ properly  
20 reflects the potential impact of resource availability and distribution constraints within the Province  
21 that could adversely impact RNG production.

22 Second, FEI believes that there is potentially significant supply from wood-based residues that  
23 will be available for 2030, as outlined in the BC Renewable and Low-Carbon Gas Supply Potential  
24 Study, which supports the reasonableness of the middle estimate.

25

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1    **2.    Reference:    Exhibit B-63, Rebuttal to Brattle, A5**

2  
3            **A5:**    It is too early to make definitive conclusions regarding the feasible potential for RNG. As  
4            the demand for RNG grows, it will stimulate technological developments and growth in  
5            supply. The approach in the *BC Renewable and Low-Carbon Gas Supply Potential Study*  
6            of developing minimum and maximum potential scenarios is the more helpful and accurate  
7            approach to assessing the potential for RNG supply.

8            2.1    When would FEI consider that it is appropriate to draw useful conclusions  
9            regarding the feasible potential for RNG?

10    **Response:**

11    FEI considers, as supported by the BC Renewable and Low-Carbon Gas Supply Potential Study,  
12    that there is potentially significant supply from wood-based residues. An appropriate timeline to  
13    update FEI's understanding of the feasible potential is after pilots and demonstrations have been  
14    conducted to prove out the technologies in partnership with the forestry sector.

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1    **3.    Reference:    Exhibit B-63, Rebuttal to Brattle, A9**

**Q9:    Brattle concludes on page 59 of its report: “Currently, FEI procures over 70% of its current RNG supplies outside of British Columbia. We find that this strategy will likely provide FEI with access to sufficient notional supplies to achieve its goal of procuring an additional 26 PJ to 61 PJ by 2030.” Brattle goes on to state: “However, FEI will need to compete for these RNG volumes with other North American natural gas utilities with similar RNG ambitions.” Has FEI considered the potential for such competition in estimating the available RNG supply?**

**A9:    Yes. As explained on page 81 of the Application, FEI has mitigated this risk to an extent by being a “first-mover” in the market and has an established regulatory path with known guidelines for supply agreements, particularly with respect to RNG. This established**

history in the RNG market is attractive to suppliers who are interested in long-term offtake agreements with a high degree of certainty of regulatory approval. FEI is seen as a buyer with a known and transparent process for contracting for RNG and has demonstrated that the regulatory process is relatively quick and known. This is desirable for sellers who perceive any regulatory process as a hurdle and timeline risk.

As discussed in the response to BCUC IR1 2.1.1 (Exhibit B-17), the duration of FEI’s existing RNG import contracts is also a supply risk mitigation strategy whereby off-take agreements secure project financing and allow FEI to lock-in RNG across North America for long periods (i.e., generally for 20 years).

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.

Ultimately, FEI is confident it will be able to achieve its goal of procuring an additional 26 PJ to 61 PJ by 2030. As of February 2023, and based upon its existing accepted BPAs, FEI’s total amount of expected supply is already just over 19.5 PJ. This is equivalent to over 8 percent of total system throughput and more than half of the amount allowed currently to meet the 15 percent Renewable Gas target set by CleanBC.

2  
3            3.1    Are there additional strategies which FEI could use if supported by the BCUC?  
4                            e.g., Would it assist FEI in acquiring RNG if the BCUC approved higher prices, or  
5                            other policies that are not currently in place? Please explain and provide examples.  
6

7    **Response:**

8    Yes, additional strategies would assist FEI in acquiring and/or producing more renewable and  
9    low-carbon gas, and in stimulating more renewable and low-carbon gas production. For RNG, the  
10    existing price cap of the GGRR is, generally-speaking, a sufficient allowance to see many projects  
11    move forward; however, project developers and smaller projects would benefit from more flexible  
12    and low-cost financing options to assist in overcoming other barriers they may face. FEI is enabled

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1 through the GGRR to produce RNG, but it may be more efficient, effective and lower cost to FEI's  
2 ratepayers if FEI was able to provide a capital incentive or other form of low-cost financing to  
3 project proponents that would lower their borrowing costs and subsequently the delivered cost of  
4 RNG.

5 An additional beneficial strategy would be if FEI were permitted to recover the interconnection  
6 costs of renewable and low-carbon gas projects outside of the delivered price of RNG (outside  
7 the price cap in the GGRR). The cost to connect renewable and low-carbon gas projects to the  
8 common carrier gas system are material and serve to increase the delivered price of these gases.  
9 During the pilot phase of FEI's Biomethane Program, interconnection costs were recovered from  
10 all customers through delivery charges just as other gas utility infrastructure and sustainment is  
11 currently recovered. When the program was made permanent, interconnection costs were  
12 ordered to be included in the cost of RNG acquisition. Re-establishing a method where  
13 interconnection costs are recovered outside of the delivered price of RNG would facilitate  
14 marginal projects passing the tests in the GGRR by lowering the cost of renewable gas and low-  
15 carbon projects.

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1   **4.   Reference:   Exhibit B-63, Rebuttal to Brattle, A10**

**Q10:   Brattle also adds on page 59 of its report: “Alternatively, FEI can meet its climate commitments by procuring carbon offsets, an inexpensive but sometimes dubious way to achieve climate benefits.” Does this fairly represent FEI’s alternatives to achieving climate benefits?**

**A10:**   No. Brattle’s consideration of FEI’s alternatives to achieve climate targets appears to be limited by the scope of its report (i.e., RNG and carbon offsets), which does not reflect all of FEI’s alternatives to meet GHG reductions targets.

As discussed in the response to BCUC IR1 1.1 (Exhibit B-17), the proposed GHG emissions cap for natural gas utilities in the CleanBC Roadmap remains under development and there remain many uncertainties, including allowed abatement pathways. For example, there is currently no clarity on the position of the provincial government on whether carbon offsets are a recognized compliance pathway for the stated goals of the CleanBC Roadmap and, as such, FEI would only do so if and when the Province provides guidance.

2  
3           4.1   Please provide further information regarding potential allowed abatement  
4           pathways. What other options are available?

5  
6   **Response:**

7   Please refer to the response to BCUC IR1 1.1 (Exhibit B-17) for a discussion of GHG emissions  
8   reduction pathways. Please also refer to Section 9.2 of FEI’s 2022 Long-Term Gas Resource  
9   Plan.

10   An additional potential option is the use of high quality carbon offsets from nature-based solutions  
11   or from negative emissions technologies. However, at the time of filing, FEI had not received  
12   policy clarity on this pathway to abatement.

13  
14

15  
16           4.2   What activities is FEI undertaking in order to influence the Province’s decision-  
17           making?

18  
19   **Response:**

20   FEI is regularly engaging with the Provincial government on policy issues related to the  
21   implementation of the CleanBC Roadmap, including the potential role of offsets and key offset  
22   protocols like the Forest Carbon Offset Protocol. Considering the announcement of the Energy  
23   Action Framework in March 2023, it is possible that the Province will provide more clarity on  
24   offsets as they will likely be required for the net-zero requirements by 2030 of new LNG facilities  
25   and, as potential measures under the oil and gas GHG emissions cap.

26