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February 28, 2023

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

Attention: Rick Williams

Dear Rick Williams:

Re: FortisBC Energy Inc. (FEI)

Revised Renewable Gas Program Application – Stage 2 (Application)
FEI Rebuttal Evidence to the City of Vancouver (CoV) Intervener Evidence

In accordance with the amended regulatory timetable established in British Columbia Utilities Commission Order G-28-23, FEI hereby files its Rebuttal Evidence to the COV Intervener Evidence in the above referenced proceeding.

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



Biomethane Energy Recovery Charge Rate Methodology and Comprehensive Review of a Revised Renewable Gas Program

Rebuttal Evidence of FortisBC Energy Inc.

to the City of Vancouver, City of Victoria, City of Richmond and Lulu Island Energy Company Ltd., the District of Saanich and the District of North Vancouver

1	1.	REBUTTAL TO THE CITY OF VANCOUVER, CITY OF VICTORIA,						
2		CITY OF RICHMOND AND LULU ISLAND ENERGY COMPANY						
3		LTD., AND DISTRICTS OF SAANICH AND NORTH VANCOUVER						
4	Q1:	What is the purpose of this Rebuttal Evidence?						
5 6 7 8 9 10	A1:	In this Rebuttal Evidence, FEI responds to the evidence of Sean Pander for the City of Vancouver (Exhibit C7-5), Laura Berndt for the City of Victoria (Exhibit C9-3), Peter Russell for the City of Richmond and Lulu Island Energy Company Ltd. (Exhibit C26-7) and Rebecca Newlove and Caroline Jackson for the Districts of Saanich and North Vancouver (Exhibit C26-8) (collectively, the Municipal Interveners). The capitalized term in this Rebuttal Evidence are defined in the Application. For example, "FEI" or the "Company" refers to FortisBC Energy Inc.						
12 13		Although FEI has addressed a number of matters in this Rebuttal Evidence, FEI's silence on any particular matter should not be construed as agreement.						
14	Q2:	Please summarize how this Rebuttal Evidence is organized.						
15 16	A2:	As the evidence of these interveners overlaps and is repetitive, FEI has organized this Rebuttal Evidence around the following points:						
17 18		 FEI's Renewable Gas Connections service conforms to ratemaking principles and supports a Diversified Energy Future. 						
19 20		 FEI's Renewable Gas Connections service will be permanently tied to the building to ensure emissions reductions for the life of the building. 						
21 22 23		 If the Renewable Gas Connections service is approved, FEI expects that the Province will recognize RNG as an eligible pathway under the opt-in Zero Carbon Step Code (formerly known as the Carbon Pollution Standard). 						
24 25		 FEI's Renewable Gas Connections service will not impact the pace of innovation for space and hot water heating solutions. 						
26		The cost of offsets is very low.						
27 28		 The benefits of the Renewable Gas Connections service will extend to all customers. 						

1 1.1 FEI'S RENEWABLE GAS CONNECTIONS SERVICE CONFORMS TO 2 RATEMAKING PRINCIPLES AND SUPPORTS A DIVERSIFIED ENERGY FUTURE

3 Q3: Does FEI have any general comments on the evidence of the Municipal Interveners?

4 A3: FEI has two general comments.

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First, the evidence of these interveners is premised on the incorrect assumption that FEI's Renewable Gas Connections service constitutes an impermissible cross subsidy. However, under the Renewable Gas Connections service, customers will be charged cost-based rates, using average cost pricing, which represents a just and reasonable apportionment of FEI's cost of service. Please refer to the Rebuttal Evidence of Mr. John J. Reed, Chairman and Chief Executive Officer of Concentric Energy Advisors Inc. (Concentric), attached as Appendix A to FEI's Rebuttal Evidence to Kurt G. Strunk.

Second, the position of these interveners appears to be largely premised on the assumption of an electrification-only pathway to reducing GHG emissions from buildings, which unfairly skews their view of the Renewable Gas Connections service as merely delaying the inevitable conversion of gas to electric service to buildings. FEI has set out detailed evidence in its Application and IR responses as to why a Diversified Energy Future provides more benefits for British Columbians and is in the public interest. The Renewable Gas Connections service supports this Diversified Energy Future.

1.2 FEI'S RENEWABLE GAS CONNECTIONS SERVICE WILL BE PERMANENT

- 20 Q4: The permanence of the Renewable Gas Connections service is a theme in the 21 evidence of the Municipal Interveners. For example, the City of Victoria states in 22 response to BCSEA-CoVictoria IR1 2.1 (Exhibit C9-5) that "FEI has not provided evidence that the rate can be made permanent and not subject to change by later 23 24 Commission panels". As another example, on page 5 of its evidence (Exhibit C9-3), 25 the District of Saanich indicates that "RNG was not to be considered as a carbon 26 pollution standards compliance pathway...based in concerns about the 27 permanence, and ability to verify permanence, of the supply of renewable energy to 28 a building." How does FEI respond?
- A4: FEI's Renewable Gas Connections service is designed to be permanently attached to the building. This is set out in FEI's proposed terms and conditions of service, as discussed in FEI's response to BCUC IR1 2.1 (Exhibit B-17).
- Even though the BCUC is not bound by precedent, FEI's proposal provides a high level of certainty that the Renewable Gas Connections service would indeed be permanent for the life of the building. Please refer to FEI's response to CoR IR1 3.2 for a discussion of why it is highly unlikely that a future BCUC panel would ever change the permanent nature of

the service. This is due to, amongst other factors, the reliance that would be placed on the permanent nature of the service by customers. If there were a change to the service in general in the future, existing Renewable Gas Connections customers at that time would need to be grandfathered to preserve their 100 percent Renewable Gas service.

In fact, the evidence of the Municipal Interveners underscores FEI's point. For example, as set out in their evidence, if the permanent nature of the service to a Renewable Gas Connections customer were to be changed, the building owner/ occupant and the City would face "cost risks and/or possible liability regarding non-compliance with GHG emission reduction commitments or future regulations" and "long-term failure to meet GHG emissions reduction targets." These are factors that any future BCUC panel would need to consider before changing the permanent nature of the service to a particular customer. Given that the BCUC must regulate in the public interest and must take into account factors such as the reliance placed on the permanent nature of the service, FEI cannot foresee circumstances in which it would be just and reasonable for the BCUC to change the permanent nature of the service provided to Renewable Gas Connections customers.

For this reason, the municipalities have entirely mischaracterized the issue. By focusing on the fact that the BCUC is not bound by precedent, they have incorrectly identified the BCUC as a source of uncertainty to the permanence of the service. However, the more accurate point of view is that the terms of the Renewable Gas Connections service may not be changed without BCUC approval. As such, the BCUC will be an objective regulatory guardian and steward of the permanence of the Renewable Gas Connections service that will protect and preserve the public interest.

Q5: Another theme of the evidence of the Municipal Interveners is the need for a long-term "guarantee" of permanence. For example, in the response to BCSEA-CoR IR1 3.5 (Exhibit C26-12), the City of Richmond indicates that it would be amendable to using 100 percent RNG for new building if "the City could be satisfied that the ongoing use of RNG could be guaranteed over the long term". Similarly, on page 5 of its evidence (Exhibit C26-8), the District of Saanich states, "if a system chosen today cannot be guaranteed to meet GHG emissions reduction standards in the long run, this risks long-term failure to meet GHG emissions reduction targets." How does FEI respond?

A5: The municipalities have set up a false standard of a "guarantee over the long term" that is not possible for any distributed energy system to meet. Every energy system is subject to change in the long run. Electrical equipment could be replaced by gas equipment at some time in the future and vice versa. Further, the carbon intensity of electricity supply changes over time, as can the carbon intensity of the content of gas pipelines through the introduction of RNG and hydrogen. Moreover, bylaws, regulations and legislation

¹ Exhibit C26-12, BCSEA-CoR IR1 3.5.

² Exhibit C26-8, Evidence of Districts of Saanich and North Vancouver, p. 5.

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governing GHG emission targets and energy supply requirements are all subject to change due to changes in the priorities of governments, voter sentiment, technological developments and other circumstances. In this context, any "guarantee" of permanence is always a matter of degree only. For the reasons set out above, FEI's proposed Renewable Gas Connections service provides a level of certainty and permanence of emissions reductions as high or greater than that of the provision of low emission electricity.

- 1.3 IF THE RENEWABLE GAS CONNECTIONS SERVICE IS APPROVED, FEI
 EXPECTS THAT THE PROVINCE WILL RECOGNIZE RNG AS AN ELIGIBLE
 PATHWAY IN THE OPT-IN ZERO CARBON STEP CODE (FORMERLY KNOWN
 AS THE CARBON POLLUTION STANDARD)
- 12 Q6: The City of Victoria states on page 2 of its evidence (Exhibit C9-3) that: "The final version of the carbon pollution standards has yet to be released by the province, and so it remains uncertain whether RNG will be an eligible pathway for compliance within this new standard." The Districts of Saanich and North Vancouver express the same sentiment on page 3 of their evidence (Exhibit C26-8). Have the carbon pollution standards been released by the Province?
- 18 A6: Yes, the opt-in Zero Carbon Step Code (formerly known as the Carbon Pollution Standard) 19 was announced in February 2023 by the Building and Safety Standards Branch (BSSB), 20 which oversees the building code in the Province (with the exception of the City of 21 Vancouver). The amendments to the BC Building Code 2018 (BCBC 2018), which take 22 effect as of May 1, 2023, include changes to minimum energy efficiency requirements for 23 most buildings, as well as the opt-in Zero Carbon Step Code. The opt-in Zero Carbon Step 24 Code allows local governments to implement GHG limits for operations of new buildings 25 with several different performance GHG target steps. FEI provides details regarding the 26 opt-in Zero Carbon Step Code in Figure 1 below.

Figure 1: BC Building Code Extract for the Opt-in Zero Carbon Step Code³

9.37.1.3. Compliance Requirements

1) Buildings conforming to the requirements of any of GHG Emission Levels EL-1 to EL-4 shall be designed and constructed to conform to one of the GHG emission compliance options in Table 9.37.1.3.

<u>Table 9.37.1.3.</u> <u>Greenhouse Gas Emissions</u> Forming part of Sentence 9.37.1.3.(1)

	GHG Emission Compliance Options						
<u>GHG</u>	Maximum GHG Emissions by House, Expressed in kg CO _{2e} /year		Maximum GHG Emissions by House ¹				
Emission Level			Maximum GHGI of the House, Expressed in kgCO _{2e} /m²/year	Maximum GHG Emissions by House, Expressed in kgCO _{2e} /year		Reduction of GHG Emissions by Energy Source of Building Systems ²	
<u>EL-1</u>	measure only		measu	re only		<u>N/A</u>	
<u>EL-2</u>	<u>1050</u>	<u>or</u>	<u>6.0</u>	<u>2400</u>	<u>or</u>	Energy sources supplying heating systems have an emissions factor ≤ 0.011 kgCO _{2e} /kWh	
<u>EL-3</u>	<u>440</u>		<u>2.5</u>	800		Energy sources supplying heating and service water heating systems have an emissions factor ≤ 0.011 kgCO₂e/kWh	
<u>EL-4</u>	<u>265</u>		<u>1.5</u>	<u>500</u>		Energy sources supplying all building systems, including equipment and appliances, have an emissions factor ≤ 0.011 kgCO _{2e} /kWh	

Notes to Table 9.37.1.3.:

2) The emissions factors associated with the use of energy utilities consumed by the building's systems shall be

a) 0.011 kg CO_{2e}/kWh for electricity, and

b) 0.180 kg CO_{2e}/kWh for natural gas.

9.37.1.4. Greenhouse Gas Emissions Compliance Calculations

1) Calculations for greenhouse gas emissions compliance shall include:

a) the energy sources for *building* systems described in Sentence 9.36.6.2.(1) using the emissions factors established in Sentence 9.37.1.3.(2), and

b) modeled in accordance with Article 9.36.6.4.

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Q7: Can conventional natural gas be used under the opt-in Zero Carbon Step Code?

As shown in Figure 1 above, the opt-in Zero Carbon Step Code includes four emission levels (EL). EL-1 is a measure-only level, which means that the GHGI and the total GHGs are calculated and the values are reported. Conventional natural gas could be used for this level. The other three levels (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 the GHGI limits.

³ BCBC-2018-Revision-5-Convenience-Copy.pdf (energystepcode.ca).

⁽¹⁾ Compliance for this option is demonstrated by meeting both the GHGI and the GHG emission requirements for each house.

⁽²⁾ Redundant or back-up equipment for the systems and equipment listed in Sentence 9.36.5.4.(1). is permitted to be excluded, provided it is equipped with controls and is not required to meet the space-conditioning load of the house.

1 Therefore, the GHGI levels must be met by using a low carbon energy source such as 2 electricity or RNG. 3 Q8: Is RNG referenced in the opt-in Zero Carbon Step Code? 4 A8: No. FEI understands that this is because FEI's current voluntary RNG service is a month-5 to-month service, rather than a permanent service, and therefore does not provide an 6 enforceable way for a building official to determine that buildings are using RNG at the 7 time of design and construction. 8 Q9: Does FEI expect that RNG will become an eligible pathway for compliance with the 9 opt-in Zero Carbon Step Code? 10 A9: Yes, if the Renewable Gas Connections service is approved by the BCUC, FEI expects 11 that the Province will recognize RNG as an eligible pathway for the opt-in Zero Carbon 12 Step Code. 13 Q10: In their evidence, the Municipal Interveners put forward their views of where RNG 14 should be used in existing buildings, rather than new buildings. For example, on 15 page 5 of its evidence (Exhibit C26-8), the District of Saanich states: "RNG may be a reasonable choice for certain existing buildings where "an existing natural gas 16 heating system is not due for replacement" or building systems are otherwise 17 difficult to electrify..." How does FEI respond? 18 19 A10: Whereas the Municipal Interveners suggest that only existing customers should have a 20 choice in their energy source. FEI considers that both existing and new customers should 21 have such a choice. Further, FEI explained in response to CoV IR1 4.3 why and how the 22 new building sector is also difficult to decarbonize. FEI will not reiterate that evidence here. 23 Amongst other benefits, allowing RNG to serve new buildings will provide an alternative 24 option that can offset any capacity constraints on the electric distribution system. FEI has 25 been informed by builders/developers that there are high growth areas where an increase 26 in electric distribution capacity is required. For these homebuilders to move forward with 27 their development, it will come at a higher cost and with a longer timeframe when 28 compared to a gas solution. This challenge is recognized in the September 2022

The structure of B.C. electrical utilities' tariffs can occasionally result in builders or developers needing to pay significantly higher extension fees (i.e. the cost of new electrical service) for larger electrical services; the structure of electrical tariffs mean that the cost of a larger electrical service

Provincial policy bulletin for cleaner, more energy efficient new construction, which states:⁴

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⁴ https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/construction-industry/building-codes-and-standards/bulletins/ghg_best_practices_bulletin.pdf.

can be difficult to predict. There are at least three options to mitigate this issue:

Revise electric utility extension fees in utility tariffs.

- A local building electrification fund, providing additional fund to buildings facing electrification challenges.
- Local governments allowing use of renewable natural gas (RNG) for compliance with requirements.

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 RNG.

Consistent with the above, 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.

FEI also considers that the BCUC, rather than municipalities, is better placed to make decisions on the best use of RNG, electricity and other renewable and low carbon energy. Otherwise, each local government can take its own approach within its municipal boundaries, resulting in a patchwork of inconsistent energy policies across the Province. Further, although municipal jurisdiction and interests are limited to their municipal boundaries, municipal decisions on energy can have significant cost consequences and other implications for all British Columbians.

In comparison, the BCUC makes determinations in the public interest, not what is in the interests of any particular municipality. The BCUC's jurisdiction spans the entire province, encompasses both gas and electric utilities, and considers the supply system for both commodities. Notably, the BCUC considers the long-term resource plans of all the major electric and gas utilities in the province. This includes the review of the Kelowna Electrification Case Study that FEI recently filed in the 2022 Long-Term Gas Resource Plan proceeding to illustrate the factors that need to be considered in the clean energy transition. These types of proceedings and evidence provide the BCUC with a long-term and overarching view of the potential impacts of various pathways on the province's energy delivery systems as a whole. Further, GHG emissions are not confined by municipal boundaries and pathways to reduce them should be considered at a broader level so that the long-term interests of the public can be properly considered and determined. The BCUC is therefore better placed to make determinations related to whether RNG for new residential construction is in the public interest.

1 1.4 RENEWABLE GAS CONNECTIONS SERVICE WILL NOT IMPACT PACE OF INNOVATION

- 3 Q11: On page 2 of its evidence (Exhibit C9-3), the City of Victoria states that FEl's Renewable Gas Connections service "will slow the pace of innovation in mechanical space and hot water heating". How does FEI respond?
- 6 A11: FEI's Renewable Gas Connections service will not slow the pace of innovation in mechanical space and hot water heating. If anything, it may increase the pace of innovation.

 First, as noted above, the City of Victoria's evidence is based on the incorrect premise that FEI's Renewable Gas Connections service constitutes an impermissible cross subsidy. As the Renewable Gas Connections service is appropriately based on average cost pricing, the City of Victoria's evidence is fundamentally flawed. Following the City of Victoria's logic, the average cost pricing of electricity in BC would also be slowing the pace of innovation; if electricity were priced at the incremental cost of clean power (such as the cost of electricity from BC Hydro's Site C dam), then capital would flow away from this "subsidized product" to its substitutes.

Second, innovation in mechanical space and hot water heating is necessarily driven by competitive and other forces, such as increasing energy efficiency requirements, in the market for these solutions as a whole, not only the market in FEI's service territory. To illustrate this point, FEI has often been involved in bringing innovations to British Columbia innovations that were developed in other jurisdictions, including piloting high-efficient natural gas heat pumps developed by the U.S. companies ThermoLift Inc. and Stone Mountain Technologies Inc. The size of the market for space and water heating solutions is immense, extending throughout North America and, indeed, the world. FEI's service territory represents a very small portion of this overall market. Large space and water heating manufacturers have often indicated to FEI that the size of the BC market is too small to influence the direction of research and development, and hence innovation. Therefore, as a general proposition, FEI's Renewable Gas Connections service is unlikely to have a material impact on the pace of innovation in the market.

Third, as noted in FEI's response to BCUC IR1 17.1 and CoV IR1 4.3.1, electric water and space heating solutions are heavily subsidized in BC, which ensures that there will be a market for innovative substitutes to gas appliances with or without FEI's Renewable Gas Connections service. Moreover, even without subsidies, electric water and space heating solutions would remain competitive with RNG under FEI's Renewable Gas Connections service. Please refer to FEI's Rebuttal Evidence to BCSEA, filed seperately in this proceeding.

Fourth, allowing for an RNG solution for new residential construction will maintain competition in the BC market, which will tend to increase the pace of innovation, rather

than decrease it. Without RNG as a viable path, electricity would be the only option in some parts of BC; as these customers would be captive to electric solutions, there would be little incentive for these technologies to innovate, at least in the BC market. Further, keeping the path open for gas solutions allows for other technologies to take hold such as capture, utilization and storage (CCUS) and the advancement of hydrogen, which would enable greater GHG reductions and at a faster pace than an electricity only approach.

Finally, with or without Renewable Gas Connections service, FEI's commodity costs passed on to customers will increase with the increasing costs of RNG and other renewable and low carbon gases. To the extent that FEI's rates increase, this will increase the value of substitutes, which would tend to cause "innovation capital" to flow to such substitutes in the manner contemplated by the City of Victoria in response to BCUC-CoVictoria IR1 1.1 (Exhibit C9-6).

1.5 OFFSETS ARE VERY LOW COST

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- On page 2 of their evidence (Exhibit C26-8), the Districts of Saanich and North
 Vancouver state that the purchase of offsets "would come with significant costs".
 What is FEI's experience with the cost of carbon offsets and are those costs significant?
- A12: FEI would not characterize the cost of offsets as significant. FEI has been able to acquire carbon offsets from a BC-based offset system provided at a very low cost. As set out in FEI's response to BCUC IR1 31.1 (Exhibit B-17), FEI's average cost of offsets has been \$1 per GJ.

22 1.6 BENEFITS OF RENEWABLE GAS CONNECTIONS ACCRUE TO ALL 23 CUSTOMERS

- 24 Q13: The City of Vancouver states at page 5 of its evidence (Exhibit C7-5): "FEI's 25 proposed subsidy would consume more of existing customers' disposable income, relative to what it otherwise would be without cross-subsidization. The CoV is 26 27 concerned that this would limit the building residents and tenants ability to 28 shoulder increased costs associated with emission reduction requirements. Those customers would receive no benefit, but they would be required to pay more to 29 30 offset the increased cost associated with providing RNG to new buildings." The City of Richmond makes similar points on pages 4 to 5 of its evidence (Exhibit C26-7). 31 32 How does FEI respond?
- 33 A13: The evidence from the City of Vancouver and the City of Richmond is misleading and incorrect for a number of reasons.

First, as noted in Section 1.1 above, the Renewable Gas Connections service is reasonably and appropriately based on average cost pricing and does not constitute an impermissible cross subsidy.

Second, the Renewable Gas Connections service will consume *less* of customers' disposable income. The important point that is missing in the argument of the City of Vancouver and City of Richmond is that FEI will be acquiring RNG as part of its efforts to meet provincial GHG reduction targets and that all customers will bear the costs of these efforts, with or without the Renewable Gas Connections service. However, 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 customers⁵. Preserving a role for gas service will provide an option for low-income customers that cannot afford costly equipment changes. Further, by supporting a Diversified Energy Future, the Renewable Gas Connections service will help support an overall lower cost approach to reducing GHG emissions in the Province. Therefore, contrary to the Cities of Vancouver and Richmond, the Renewable Gas Connections service will leave customers, including low-income customers, better positioned to shoulder the costs of emission reduction requirements.

Third, all customers will benefit from the Renewable Gas Connections service. The GHG reduction benefits of substituting RNG for conventional natural gas will benefit all British Columbians, not only those that receive the service. In addition, as noted above, 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.

Fourth, the cost to reduce the GHG emissions from existing buildings will also be shared. For example, FEI's costs to run its DSM programs are borne by all customers, as would be the cost of the Renewable Gas Blend service. The challenge posed by climate change is a global one and the costs to meet this challenge are driven by government policy, not any individual customers. It is therefore appropriate that all customers share the cost of reducing emissions.

Finally, the City of Vancouver and City of Richmond have not considered the cost of an electrification approach on all residents of BC. All of the infrastructure costs of BC Hydro required to serve the load resulting from the City of Richmond and City of Vancouver policies will be recovered from all electricity customers in the Province, not just those in the City of Vancouver and City of Richmond. An electrification only approach will, therefore, result in additional costs being borne not only by residents of Vancouver and Richmond, but by all British Columbians.

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⁵ Exhibit B-19, BCSEA IR1 8.5, pp. 32 to 35.

1 1.7 CONCLUSION

- 2 Q14: Does this conclude your rebuttal evidence in respect of the evidence of Municipal
- 3 Interveners?
- 4 A14: Yes.