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November 1, 2019

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

Attention: Mr. Christopher P. Weafer

Dear Mr. Weafer:

Re: FortisBC Energy Inc. (FEI)

Filling of Biomethane Purchase Agreements between FEI and Tidal Energy Marketing Inc. (Tidal Energy) (the Application)

Response to the Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 1

On June 3, 2019, FEI filed the Application referenced above. In accordance with the British Columbia Utilities Commission Order G-213-19 setting out the Regulatory Timetable for the review of the Application, FEI respectfully submits the attached response to CEC IR No. 1.

If further information is required, please contact Scott Gramm, Manager, Renewable Natural Gas, at (604) 576-7242.

Sincerely,

FORTISBC ENERGY INC.

Original signed:

Doug Slater

Attachments

cc (email only): Commission Secretary
Registered Parties

FortisBC Energy Inc. (FEI or the Company) Filling of Biomethane Purchase Agreements between FEI and Tidal Energy (the Application)	Submission Date: November 1, 2019
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1 1. **Reference: Exhibit B-1, Cover Letter, page 1 and Application page 1**

Commercial relationships and address: FEI has redacted any reference to Tidal Energy's existing relationship with its counterparties and the project addresses because FEI does not have explicit permission from Tidal Energy to disclose the locations and relationships publicly.

A summary description of the BPAs is as follows:

- Niagara BPA: A BPA between Tidal Energy and FEI which establishes the terms and conditions for Tidal Energy's provision of biomethane to FEI at the Huntingdon interconnection point from Westcoast Energy Inc.¹ (Westcoast), originating from a landfill project which will be owned and operated by [REDACTED] and located in Niagara Falls, Ontario.

2

3 1.1 What steps has FEI undertaken to secure permission from Tidal Energy to
4 disclose its existing relationships? Please explain.

5

6 **Response:**

7 As part of FEI and Tidal's commercial discussions, FEI and Tidal entered into a non-disclosure
8 agreement in which each party agreed not to disclose the confidential information of the other.

9 As part of its commercial discussions, Tidal identified the elements of its commercial
10 relationships that it considered confidential pursuant to the non-disclosure agreement. FEI has
11 requested, but Tidal has not granted, permission to disclose the information.

12

13

14

15 1.1.1 If FEI has taken no steps to secure permission from Tidal Energy,
16 please explain why not.

17

18 **Response:**

19 Please refer to the response to CEC IR 1.1.1.

20

21

22

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1.2 Please explain why the future owner of the company is considered confidential and the type of harm that could arise if it were not confidential. Please file the response confidentially if necessary.

Response:

Tidal's suppliers have requested that the ownership and future operator of the RNG facilities be kept confidential. The future owner sees its investment in RNG projects as strategic and that revealing their involvement could expose their long-term strategy to other investors. Such disclosure could harm their competitive position in future projects of a similar nature.

1.3 Please explain why the future operator of the company is considered confidential and the type of harm that could arise if it were not confidential. Please file the response confidentially if necessary.

Response:

Please refer to the response to CEC IR 1.1.2.

1.4 Does FEI expect to keep the ownership and operator confidential following the completion of this proceeding?

Response:

Yes, FEI will continue to respect the confidentiality of Tidal's commercial relationships until it is no longer obligated to do so, such as if it is given permission to disclose the information or the information becomes generally available to the public. FEI expects that the ownership may become generally available to the public once the facility is complete and the sale of RNG to FEI has begun. However, it is expected that the specific volumes and purchase price will remain confidential indefinitely.

1.4.1 If no, when and under what circumstances does FEI expect to make the information public?

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1

2 **Response:**

3 Please refer to the response to CEC IR 1.1.4.

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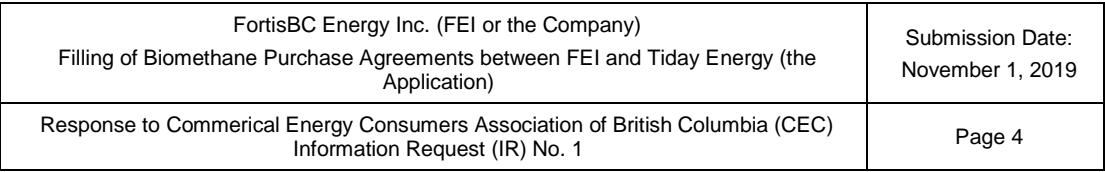
7 1.4.2 If yes, please explain why.

8

9 **Response:**

10 Please refer to the response to CEC IR 1.1.4.

11



Commercial relationships and address: FEI has redacted any reference to Tidal Energy's existing relationship with its counterparties and the project addresses because FEI does not have explicit permission from Tidal Energy to disclose the locations and relationships publicly.

- London BPA: A BPA between Tidal Energy and FEI which establishes the terms and conditions for Tidal Energy's provision of biomethane to FEI at the Huntingdon interconnection point from Westcoast, originating from an organic waste digestion project which will be owned and operated by [REDACTED] [REDACTED] and located in London, Ontario.

3 2.1 Please explain why the future owner of the company is considered confidential,
4 and the type of harm that could arise if it were not confidential. Please file the
5 response confidentially if necessary.

8 Please refer to the response to CEC IR 1.1.2.

0

2.2 Please explain why the future operator of the company is considered confidential and the type of harm that could arise if it were not confidential.

6 Please refer to the response to CEC IR 1.1.2.

8

9
0 2.3 Does FEI expect to keep the ownership and operator confidential following the
1 completion of this proceeding?

4 Please refer to the response to CEC IR 1.1.4.

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1

2

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4 2.3.1 If no, when and under what circumstances does FEI expect to make the
5 information public?

6

7 **Response:**

8 Please refer to the response to CEC IR 1.1.4.

9

10

11

12 2.3.2 If yes, please explain why.

13

14 **Response:**

15 Please refer to the response to CEC IR 1.1.4.

16

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1 3. **Reference: Exhibit B-1, Cover Letter August page 2 and Application page 3**

Price: Given that FEI enters into commercial negotiations regarding supply projects in order to obtain the lowest possible price for RNG supply, public disclosure of this commercially sensitive information will hamper FEI's ability to negotiate favourable pricing for future RNG supply. As such, public disclosure of this sensitive financial information has the potential to increase the overall costs of the Biomethane Program to the detriment of all FEI non-bypass customers.

Termination Payment: Termination payments are specific to each project and are the outcome of negotiation. Both FEI and Tidal Energy consider the amount of these payments as commercially sensitive. By disclosing them publicly, both parties lose the ability to negotiate the best possible payment for future agreements with other parties.

Volumes: The production volume is not necessary in any public disclosure. When combined with price, the volume can be used to estimate total annual purchase costs.

1.1 ██████████ **PROJECT DESCRIPTION (NIAGARA BPA)**

Tidal Energy, a wholly owned subsidiary of Enbridge Inc., has entered into an exclusive agreement to purchase all the RNG produced from a project located at a privately-owned landfill site in Niagara Falls, Ontario (ON). Tidal Energy will buy and market all RNG from an entity entitled ██████████. ██████████ is a company comprised of a partnership between ██████████ and ██████████ which is an affiliate of ██████████. Currently the landfill gas (LFG) is captured and flared at the site.

██████████ plans to construct, own and operate a facility capable of upgrading the LFG to RNG and injecting it into the Enbridge Gas distribution system in Niagara Falls, ON. The total maximum annual RNG production is estimated to be approximately ██████████ gigajoules

(GJs), and of that amount, approximately ██████████ GJs per year will be sold to FEI as set out in the Niagara BPA. Tidal Energy will inject the RNG into the Enbridge Gas distribution system, and then deliver it to the FEI system by displacement at the Huntingdon interconnection point from Westcoast.⁵

2

3 3.1 Please explain why the volume of GJs per year to be sold to FEI from the

4 Niagara BPA is confidential in the absence of price information.

5

6 **Response:**

7 Tidal has requested that the volume to be sold to FEI be kept confidential as FEI is currently not

8 receiving the total amount of RNG from the landfill. Tidal may consider an alternate market to

9 sell the volume that is not committed to FEI. As a result, disclosing the total volume may

10 frustrate negotiations Tidal has with other parties.

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3.2 Please explain the harm that could arise if the volume were not confidential.
Please file the response confidentially if necessary.

Response:

Please refer to the response to CEC IR 1.3.1.

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1 4. **Reference: Exhibit B-1, Cover Letter August 8 page 2 and Application page 3**

Price: Given that FEI enters into commercial negotiations regarding supply projects in order to obtain the lowest possible price for RNG supply, public disclosure of this commercially sensitive information will hamper FEI's ability to negotiate favourable pricing for future RNG supply. As such, public disclosure of this sensitive financial information has the potential to increase the overall costs of the Biomethane Program to the detriment of all FEI non-bypass customers.

Termination Payment: Termination payments are specific to each project and are the outcome of negotiation. Both FEI and Tidal Energy consider the amount of these payments as commercially sensitive. By disclosing them publicly, both parties lose the ability to negotiate the best possible payment for future agreements with other parties.

Volumes: The production volume is not necessary in any public disclosure. When combined with price, the volume can be used to estimate total annual purchase costs.

1.2 **██████████ PROJECT DESCRIPTION (LONDON BPA)**

Tidal Energy has entered into a contract with ██████████ and ██████████ to purchase RNG produced from an anaerobic digestion biogas processing facility located in London, ON. ██████████ owns the anaerobic digestion facility, which currently annually processes ██████████ tonnes of industrial, commercial, and institutional organic waste into biogas. ██████████ will construct, own and operate a biogas upgrader and the associated interconnection station at the anaerobic digestion facility. After the construction and installation of the biogas upgrader and interconnection station, ██████████ will inject the RNG into the Enbridge Gas distribution system in London, ON and transport it to the ██████████ trading hub where it will be purchased by ██████████. ██████████ will then deliver the RNG to the FEI System at the Huntingdon interconnection point from Westcoast. The total contractual maximum annual RNG production is approximately ██████████ GJs, with an expected initial production of about ██████████ GJs.

- 2
- 3 4.1 Please explain why the volume of GJs per year to be sold to FEI from the London
- 4 BPA is confidential in the absence of price information.
- 5

6 **Response:**

7 While Tidal has fewer concerns over the confidentiality of volumes for the London BPA due to

8 the contract structure, Tidal has treated the volumes under both BPAs confidential and

9 requested that FEI not disclose the information in accordance with the non-disclosure

10 agreement signed between the parties. The operator of the London Facility may expand the

11 facility and will need to compete for potential sources of feedstock, and it considers the

12 procurement of feedstock and resulting volumes as potentially competitive. In consideration of

13 the supplier's competitive position, the volumes for the London BPA are confidential.

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3

4 4.2 Please comment on the harm that could arise if the volumes were not
5 confidential. Please file the response confidentially if necessary.

6

7 **Response:**

8 Please refer to the response to CEC IR 1.4.1.

9

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1 5. Reference: Exhibit B-1, page 4

1.3 SUMMARY OF THE BPAs

FEI has agreed to the following basic terms for the Niagara BPA and London BPAs. The BPAs represent an approximate range of RNG supply from approximately [REDACTED] GJs to [REDACTED] GJs per year, with a combined expected annual amount of about [REDACTED] GJs. The volumes contemplated in the Niagara and London BPAs are significant: the current RNG projects in BC range from expected annual volumes of about 15,000 GJ (Salmon Arm Landfill) to about 100,000 GJ (Fraser Valley Biogas), for a total expected output from all five approved projects of about 250,000 GJ of RNG in 2018. The key elements of the BPAs are summarized in the table below:

Table 1: Key Elements of the BPAs

Item	[REDACTED]	[REDACTED]
RNG (Annual Supply)	Min. [REDACTED]	Min. [REDACTED]
	Max. [REDACTED]	Max. [REDACTED]
Delivery Point	Huntingdon	Huntingdon
Start date (First gas delivery)	Q1, 2020	Q3, 2019
Term (Total)	20 Years	20 Years
Biomethane Purchase Price	[REDACTED]	[REDACTED]
Estimated Carbon Intensity	[REDACTED] kgCO ₂ e/GJ	[REDACTED] kgCO ₂ e/GJ
Termination Payment (Reciprocal)	[REDACTED]	[REDACTED]

2

3 5.1 Please provide the current expected start dates for the two BPAs.

4

5 **Response:**

6 Based on the latest update from Tidal Energy, the London BPA has an expected start date of
7 December 1, 2019. The Niagara BPA start date is dependent upon final acceptance of the
8 agreement. Tidal has indicated that the start date will be twelve to eighteen months following
9 acceptance of the agreement.

10

11

12

13 5.2 Please explain when FEI began negotiations and entered into agreements with
14 each BPA.

15

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1 **Response:**

2 FEI began negotiations in mid-2018 following the closing of the RFEOL. FEI signed the BPAs in
3 March and April 2019.

4

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1 **6. Reference: Exhibit B-1, page 5**

1.4 *GAS ELECTRONIC DATA INTERCHANGE (GASEDI) STANDARD FORM OF CONTRACT FOR THE BPAs*

FEI and Tidal Energy have entered into GasEDI standard forms of contract for the BPAs (similar to FEI Rate Schedule (RS) 30 – Off-System Sales and Purchases Rate Schedule and Agreement (Canada and U.S.A.)). FEI has experience using RS 30 for acquiring out-of-province conventional natural gas, and the GasEDI standard form of contract offers an industry standard form of contract for FEI to purchase out-of-province RNG. FEI expects to use the GasEDI standard form of contract as a template for future biomethane purchase agreements for out-of-province RNG.

2

3 6.1 Please provide a brief history of FEI's purchases of out of province RNG, if any
4 have occurred in the past, including volumes and dates.

5

6 **Response:**

7 The Tidal BPAs will represent the first purchases of RNG from out-of-province.

8 In addition to the Tidal BPAs, FEI expects to file additional BPAs for out of province RNG in
9 2020. The exact volumes and timeframes are still under negotiation with prospective RNG
10 supplier.

11

12

13

14 6.2 Does FEI already have additional plans to purchase RNG outside of BC? Please
15 discuss providing expected volumes and approximate time frames.

16

17 **Response:**

18 Please refer to the response to CEC IR 1.6.1.

19

20

21

22 6.3 How does the GasEDI form differ from the RS 30 – Canada and USA form, and
23 why has FEI entered into an agreement with that form instead of the RS 30 form?

24

25 **Response:**

26 The GasEDI form is an industry-wide standard form of contract used for short-term sale and
27 purchase of natural gas. It is an umbrella agreement that allows the parties to the agreement to

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purchase gas on the terms and conditions contained in the GasEDI. FEI frequently uses the GasEDI to transact for the purchase of conventional natural gas, for daily or for longer term purchases. The GasEDI form is set out in Rate Schedule 30. Rate Schedule 30 is a gas tariff which allows for a counter-party to sell or purchase gas from FEI using the GasEDI.

The GasEDI consists of four parts: the Cover sheet, the General Terms and Conditions, the Special or Standard Provisions that contain terms amending the General Terms and Conditions, and the Transaction Confirmations that set out the specifics regarding each transaction entered into under the GasEDI between the parties.

FEI has used the GasEDI (as shown in Rate Schedule 30) as the starting point for its agreement with Tidal. Please see the table below that illustrates the general differences between this agreement and Rate Schedule 30:

Gas EDI Item	RS30	Agreement with Tidal
1. Cover Sheet	Blank form of cover sheet	No substantial difference from usual form of cover sheet – completed information is confidential
2. General Terms and Conditions (October 26, 2000 version)	No difference	No difference
3. Standard Provisions	FortisBC's usual negotiated terms amending the General Terms and Conditions	Some negotiated and confidential differences between the standard provisions set out in RS30
4. Confirmation	Blank form of confirmation that once completed would contain the specifics of a transaction made under the GasEDI	Confirmation that contains the confidential specifics of the transaction made under the GasEDI. Unique aspects of biomethane vs. conventional gas contained here

6.4 Is the industry standard form of contract used in Canada only, or is it also used in the US?

Response:

The Gas EDI standard form of contract is used throughout Canada and the US.

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6.4.1 If it is only used in Canada, please identify and briefly comment on any significant differences with an agreement used internationally.

Response:

Please refer to the response to CEC IR 1.6.4.

6.5 Why does FEI expect to use the GasEDI for future purchase agreements out of province, and not within the province of BC? Please explain the differences, and why they should be used separately.

Response:

The provisions of the GasEDI are oriented towards a commodity purchase, including how the parties transact the commodity between different locations such as nominations. RNG projects in BC, where the supplier is physically connected to the FEI natural gas distribution system, typically involve the ownership and operation of FEI assets. This may include purifying raw biogas, evaluating biomethane quality, and injecting RNG in to the natural gas system. These projects require an agreement which is suited specifically to an agreement between a local supplier and FEI, including unique provisions such as risk mitigation of the assets becoming stranded in the event of early termination. FEI personnel will also require access and usage rights to the supplier's land to operate, maintain and repair equipment. Additionally, the agreements used for BC projects include gas quality requirements specific for injection into FEI's natural gas distribution system.

In contrast, the GasEDI allows for FEI to transact with parties from a variety of different jurisdictions without the need to create an entirely new agreement in each case. For example, a supplier can have multiple transaction confirmations which contain the specific business terms all under one GasEDI. Many of the provisions for asset ownership in the BC agreement would not apply to the GasEDI as the supplier has sole responsibility for equipment ownership.

As the GasEDI is an existing agreement with standardized language being widely adopted in Canada and the US, it was considered to be the best fit for FEI to transact for RNG supply from outside of BC.

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1 **7. Reference: Exhibit B-1, page 7**

2 **2. Out of Province RNG is Necessary to Meet Supply Objectives**

FEI continues to advance RNG supply projects within BC. Currently, FEI holds an active prospect list of over 15 RNG projects within BC representing over one Petajoule (PJ) of incremental annual RNG supply. However, given the growing demand and increased policy pressure to increase RNG supply significantly over a relatively short time horizon, FEI believes that RNG supply obtained from out-of-province projects will need to make up part of the supply mix. Demonstrating the viability of supply from outside of BC will provide further opportunity to grow the program and reach the CleanBC target of 15 percent renewable gas. This section will provide additional background on the current RNG prospect potential and policy environment.

2.1 ***CURRENT DEMAND IS ROBUST AND OUTPACING SUPPLY***

FEI is seeing continued growth in demand for RNG. The volume is driven primarily by interest in reducing GHG emissions from high volume commercial customers and from Natural Gas for Transportation (NGT) customers who are seeking to reduce GHG emissions even further than switching from diesel to conventional natural gas would achieve. Because these high volume customers are natural gas customers, they are able to elect to use RNG which allows them to reduce their emissions beyond their current levels. University of British Columbia and TransLink are examples of these types of customers.

Long-term, diversified RNG supply contracts are critical to support these high volume customers. These customers need certainty of supply in order to support their decisions to purchase RNG on a long-term basis. Thus, in order to continue to grow the program and continue to attract large organizations like TransLink and UBC, FEI will need to continue to build its portfolio of long-term biomethane supply contracts within and outside of BC.

7.1 Please provide a forecast for the value in PJs, for 15% renewable natural gas over the next 10, 15 and 20 years.

Response:

FEI has prepared the following forecast of the value in PJs for the 15% renewable gas target, using the Long-term Gas Resource Plan (LRGTP) Reference Case volumes for 2030, 2035 and 2040¹:

Timeframe	Volume (PJ)	15 Percent (PJ)
2030 (10 years)	198.3	29.7
2035 (15 years)	201.6	30.2
2040 (20 years)	205.0	30.8

¹ FEI 2017 Long Term Gas Resource Plan. Appendix B-4. Annual Demand Forecast Tables - Reference Case.

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Please note that since the LGTRP Reference Case extends only to 2036 so FEI projected to 2040 using a straight line calculation.

7.2 Please provide quantitative evidence of the growth in RNG demand from commercial customers, providing sales over the last 10 years.

Response:

The RNG program was initially offered to commercial customers starting in 2012, thus FEI has provided the data back to that date.

Year	Non Residential RNG Volume (TJ)
2012	2.47
2013	30.61
2014	70.00
2015	97.54
2016	103.10
2017	144.71
2018	179.45

7.3 Please provide a summary of any evidence of price sensitivity FEI has with regard to commercial customers.

Response:

To date, FEI has not conducted any price sensitivity analysis with regards to commercial customers specifically. Please also refer to the response to BCUC IR 1.6.3.

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7.4 Please confirm that purchasing RNG does not require any acquisition of equipment or significant capital expenditure relative to utilizing regular natural gas.

Response:

FEI interprets this question to ask whether customers who purchase RNG require any acquisition of equipment or capital expenditure when using RNG in place of conventional natural gas. FEI confirms that RNG and natural gas are interchangeable and that customers do not require any specialized equipment or capital expenditure to use RNG.

7.5 Please provide a discussion of the purchase decision for RNG on a long-term basis and explain why 'certainty of supply' is required to support that decision. What options are prospective customers choosing between? Why do they require certainty in order to make the purchase decision? What are the consequences for the customers if the RNG supply were not available as planned?

Response:

Customers consider the availability of long-term RNG supply in relation to their long-term emission reductions targets and sustainability objectives. Further, in order to meet these objectives, a customer may require investment in their own infrastructure upgrades. FEI understands through discussions with these customers that the long-term availability of RNG will be included in the cost benefit analysis, and ultimately the final investment decision on whether to proceed with a particular initiative. For example, in upgrading its transit fleet to utilize natural gas and RNG, TransLink needed a degree of certainty that FEI could supply RNG over the life of their fleet assets in order for TransLink to meet its emissions reductions targets.

In the absence of stable, long-term RNG supply for transportation, TransLink may in the future choose electric buses. Along with this choice, TransLink may be forced to invest in more costly infrastructure upgrades for electricity conversion.

As another example, UBC considered the availability of RNG when it chose to use it as an energy input for generating electricity while remaining compliant with its power generation contracts with BC Hydro. In this case, the inability to purchase long-term RNG supply as a renewable energy input would require them to reduce the operation of the cogeneration facilities or discontinue use altogether.

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7.6 Please provide the forecast growth in RNG demand over the next 10 years, broken down by customer class and include specifics of the basis for which FEI has generated the forecast for each customer class.

Response:

In 2019, demand for RNG significantly outpaced supply, leading FEI to temporarily suspend new enrolments in the service until new RNG supply can be secured. This makes it difficult to forecast the growth of demand; however, FEI expects that demand will exceed supply over the next several years.

FEI provided a 5-year forecast in the response to BCUC IR 1.97.4 in Multi-Year Rate Plan (MRP) Application², prior to suspending new enrolments, for the years 2020-2024. FEI also prepared a demand forecast including the period of 2025 to 2028 in its Application for Approval of a Biomethane Long Term Large Volume Interruptible Sales Agreement between South Coast British Columbia Transportation Authority (TransLink) and FEI as Tariff Supplement No. K-3 to Rate Schedule 11B (the Application). The forecast volumes for the MRP period and the years 2025 through 2028 are combined in the table below:

Year	2020	2021	2022	2023	2024	2025	2026	2027	2028
Expected Demand (TJ)	605	660	741	1,064	563	587	643	666	682

These demand forecasts took into account growth in demand from customers in Rate Schedule (RS) 1B, RS 2B and RS 3B, the expected consumption of existing RS 11B customers.

However, other sources of demand growth were not included as they were primarily related to large volume customers who expressed interest in RNG, but were not enrolled in part because of uncertainties around the availability of sufficient supply. As a result, FEI expects that demand will increase along with growth in available supply. As noted in the response to CEC IR 1.11.1 these larger volume customers have indicated interest in purchasing a volume of RNG approaching 3,000 TJ/yr..

² Exhibit B-10, FEI and FBC Multi-Year Rate Plan Application for 2020 to 2024.

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7.7 Please provide the Biomethane Variance Account balances over the last 10 years.

Response:

Based on the references included in this question, FEI believes the question is seeking to identify the inventory balances included in the BVA over the last 10 years. FEI began acquiring RNG starting in the year 2010 and has balances for that year forward. The table below provides the RNG inventory continuity schedule for the RNG included in the BVA.

RNG Inventories TJs	2010	2011	2012	2013	2014	2015	2016	2017	2018
Opening Inventory	-	6.0	42.3	79.6	99.0	79.9	62.2	32.4	(46.9)
Purchases	6.0	41.1	60.7	94.3	104.0	132.6	133.7	153.8	323.1
Sales		(4.7)	(23.5)	(74.9)	(123.1)	(150.3)	(163.6)	(233.1)	(276.2)
Closing Inventory	6.0	42.3	79.6	99.0	79.9	62.2	32.4	(46.9)	-

7.8 Please provide FEI's quantitative definition of 'long-term'.

Response:

FEI broadly defines long-term in reference to RNG supply to mean contracts with a term of at least 10 years in length.

7.9 Does FEI consider electricity to be a potential short-or long-term option for the transportation customers and customers such as TransLink and UBC? Please explain why or why not.

Response:

FEI considers electricity to be a potential long-term option for natural gas for transportation customers such as TransLink, and transportation rate schedule customers such as UBC.

For fleet customers like TransLink, the infrastructure to utilize electricity to power entire fleets has yet to be widely implemented, and it is unclear as to what timeframe this will occur over. By comparison, natural gas infrastructure to reduce emissions and fuel fleets is readily available, requiring relatively minor modifications in the short term. TransLink is already using CNG and

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1 can therefore drop-in RNG as a replacement to further reduce emissions as soon as it is
2 available.

3 Similarly, FEI understands that natural gas customers like UBC (transportation-only service) are
4 seeking readily available sources of energy which allow the future adoption and transition to
5 lower carbon energy sources. The availability of RNG in the short-term allows UBC to meet
6 short term objectives and to utilize a drop-in replacement form of energy following technology
7 advancements in wood biomass conversion. Please also refer to response to CEC IR 1.7.5.

8
9
10
11 7.10 Please provide an overview of the advantages and disadvantages of customers
12 using electricity instead of RNG for:

- 13 a) the customer;
14 b) the province of BC; and
15 c) ratepayers.
16

17 **Response:**

18 FEI provides the response to each group below:

- 19 a. The Customer: Please refer to the response to CEC IR 1.7.9 for a discussion of the use
20 of electricity for long-term customers. With respect to voluntary RNG residential and
21 commercial customers, the use of RNG has several advantages and therefore electricity
22 would have disadvantages. From an emissions perspective, RNG is approximately
23 equivalent to electricity in BC and therefore, represents a suitable alternative low
24 emission energy source. All of FEI's customers can participate voluntarily in the RNG
25 program and can nominate their RNG use without the requirement to make any
26 appliance changes or upgrades. RNG is also a cost-effective alternative to electricity.
27 When compared to electricity costs, the current RNG commodity rate of \$10.287/GJ is
28 equal to about \$0.037/kWhr which is much lower than the residential electricity rate.
29 Further, customers that wish to use electricity as a full substitute to natural gas would be
30 required to make changes to their energy systems such as an investment in appliances.
- 31 b. The Province of BC: The advantage of using electricity over RNG is limited. FEI sees a
32 widespread adoption of electricity as limiting energy choices for British Columbians.
33 Although the province of BC has low-carbon electricity, RNG can offer the same
34 emissions benefits while avoiding costly investment in new electricity infrastructure that
35 would be required to serve the load. The estimated total amount of energy derived from
36 gas in the province is about 30 percent. In order to replace this with electricity, the
37 infrastructure investment would have to be massive when compared to making use of

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existing gas infrastructure to supply RNG. The investment in a switch to electricity also ignores the inherent resiliency of the natural gas system when compared to electricity. The gas system, whether using RNG or not, is a reliable alternative to electricity and it is in the long-term interest of the Province for it to continue to be used. Please refer to the response to BCUC IR 1.1.5 and 1.3.1 for a discussion on the advantages of RNG use in the province of BC compared to electricity

- c. Ratepayers: Since FEI's customers are also ratepayers, FEI has interpreted this question to be in relation to rate impacts. Leaving aside the cost of equipment upgrades, the most readily available alternative for comparison in terms of rate impacts or costs to ratepayers would be to compare RNG at the full acquisition cost to the cost of electricity. Please refer to the response to BCUC IR 1.3.1 for discussion on the comparison to electricity. From a ratepayer perspective, RNG is less costly when considered as an alternative to electricity.

7.11 Please provide a timeline showing when the various prospective RNG supply projects amounting to 1 PJ of BC RNG are expected to become available, and the quantities associated with each. There is no necessity to name the projects if they are confidential.

Response:

The timeline for anticipated future volumes is shown in the table below. FEI projects that it will reach 1 PJ of annual supply in about two years. The table has two categories. The first includes all BCUC accepted agreements. The second includes additional agreements that FEI anticipates filing imminently.

Category	Volume in PJ		
	2019	2020	2021
Existing Accepted Projects	0.24	0.30	0.38
BC Projects Signed Agreements	0.30	0.38	0.92
Total	0.54	0.67	1.30

FEI notes that the projected volumes are higher than those submitted in FEI's MRP proceeding, in response to BCUC IR 1.97.4³. Since that time, FEI has signed additional RNG supply agreements including one project that is expected to add significant volumes in 2021. FEI now also has regulatory acceptance of the City of Vancouver landfill BPA which is expected to begin producing RNG in late 2021.

³ Exhibit B-10, FEI and FBC Multi-Year Rate Plan Application for 2020 to 2024.

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3
4 7.12 Please explain if the entire 1 PJ of RNG prospective projects will likely be utilized
5 by FEI as they become available, or if any of the prospective projects could be
6 delayed, under-utilized, curtailed, terminated or otherwise hindered as a result of
7 FEI's purchase of RNG from out of Province.
8

9 **Response:**

10 FEI expects to fully utilize all RNG from prospective projects. FEI does not expect to delay,
11 terminate or curtail any in-province RNG projects as a result of the purchase of RNG from out-
12 of-province. FEI expects that it will need to develop all of the RNG supply available within BC,
13 as well as projects outside of BC, to reach the CleanBC plan target of 15 percent renewable gas
14 content. The CleanBC plan confirms the critical role that renewable gas will play in reducing
15 emissions, accounting for approximately 75 percent of the emissions reduction in the building
16 sector. As a result, FEI sees continued growth and development of the renewable gas portfolio
17 in the future in order to achieve these objectives. Thus, FEI does not expect that prospective
18 projects could be delayed, under-utilized, curtailed, terminated or otherwise hindered as a result
19 of FEI's purchase of RNG from out of Province.
20
21

22
23 7.12.1 If any of the BC projects could experience any hindrance as a result of
24 FEI's purchase of out-of-province RNG, please rationalize.
25

26 **Response:**

27 Please refer to the response to CEC IR 1.7.12.
28
29

30
31 7.13 Please confirm that 1 PJ does not represent the total available amount of
32 renewable natural gas if more projects were developed in BC.
33

34 **Response:**

35 Confirmed. The preamble references FEI's active list of prospective RNG projects within BC
36 which FEI expects will grow and change over time as new projects are identified and
37 implemented.

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7.14 Please provide any estimates that FEI has available regarding the total amount of RNG available in BC if it were developed to maximum capacity throughout the province over the next 10 years.

Response:

The best estimate FEI has regarding RNG potential in BC over the next 10 years is between approximately 8.0 and 12.0 PJ as stated in the Resource Supply Potential for Renewable Natural Gas in B.C. completed in 2017.⁴

⁴ Page 3:
https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/electricity-alternative-energy/transportation/renewable-low-carbon-fuels/resource_supply_potential_for_renewable_natural_gas_in_bc_public_version.pdf

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1 8. Reference: Exhibit B-1, page 8 and Appendix B page 2

2.2 FEI'S REQUEST FOR EXPRESSIONS OF INTEREST IDENTIFIED SIGNIFICANT OPPORTUNITY FOR OUT OF PROVINCE RNG SUPPLY

To identify new RNG supply opportunities, FEI issued a Request for Expression of Interest (RFEI), which opened to the market on June 29, 2018 and closed on July 30, 2018. An RFEI package was distributed to over 160 contacts representing approximately 120 organizations. FEI also held two online information webinars on July 10 and 13, 2018 to increase the level of participant understanding for the process.

FEI received a total of 33 responses. Those responses were initially screened down to a total of 24 representing a total volume of about 4.4 PJs. A summary of these responses by region and price was developed and is included in Appendix B. Of the total respondents, 17 of the 24 were from out-of-province and about ninety percent (3.9 PJs) of the total volume was from outside of BC.

Screened Results

Responses: 24
Total Volume: 4,380,000 GJ (4.4 PJ)

Screened Potential Project (Location/Volume GJ)



Screened Project Locations (By # of Projects)



2

3

4

8.1 Please provide the boundaries for 'Western Canada'.

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1 **Response:**

2 The boundaries FEI used for Western Canada were from the Province of Saskatchewan's
3 eastern border to the western border of the Province of Alberta. All five respondents in the
4 Western Canada category were from Alberta.

5
6

7

8 8.2 Please provide the boundaries for 'Eastern Canada'.

9

10 **Response:**

11 The boundaries for Eastern Canada were the western boarder of the Province of Manitoba to
12 the Eastern most coast of Canada. Respondents in the Eastern Canada category were from
13 the provinces of Ontario and Nova Scotia.

14
15

16

17 8.3 Please provide the reasons for screening out 9 of the respondents.

18

19 **Response:**

20 The reasons that nine of the respondents were screened out include high cost, lack of relevant
21 project details, responses from technology providers rather than suppliers of RNG, and
22 responses from projects using technologies not suitable for the production of RNG.

23
24

25

26 8.4 Please provide the locations and volumes of the screened out respondents.

27

28 **Response:**

29 The locations of the screened out respondents include BC, Washington, Nova Scotia, Ohio,
30 Ontario, and Texas. The combined volume of RNG from the projects of the screened out
31 respondents was 1.4 PJs. FEI has attempted to re-engage the suppliers where it may be
32 possible to revise the project scope and explore future project viability.

33
34

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1
2 8.5 Please provide FEI's understanding of why BC's potential projects are
3 significantly below those in Western Canada as a whole.

4
5 **Response:**

6 FEI believes the low amount of BC respondents reflects that FEI is already aware of, and
7 working on, developing the majority of opportunities within the province and, therefore, those
8 projects did not need to submit to the RFEOI.

9

1 **9. Reference: Exhibit B-1, page 8 and CleanBC Plan Title Page and Executive**
2 **Summary**

2.3 PROVINCIAL POLICY DRIVES NEED FOR GREATER SUPPLY

In December 2018, the BC Provincial Government issued the CleanBC plan. Among other items, it sets an aggressive mandate of 15 percent renewable gas by 2030. This amounts to an equivalent of as much as 30 PJs of RNG annually. Achievement of this target will require coordination between the provincial government and key stakeholders, including FEI.

In order to achieve a 15 percent renewable gas portfolio by 2030, FEI needs to consider sourcing RNG from out of the province. The supply potential study done in 2016 by Hallbar for the Province of BC⁶ indicated that there is between 8 and 12 PJs of RNG available in BC using existing methods for biogas generation. This represents about 5 percent RNG content based on current natural gas use in BC, which is well short of the 15 percent policy target.

RNG sourced from outside of BC would be an expedient and effective way to supplement RNG supply available from RNG projects within BC in order to reach the provincial government target. From a time-to-market perspective, there are well-developed projects in jurisdictions like Ontario that present an opportunity for FEI to grow the RNG supply portfolio at the pace necessary to reach the 15 percent policy target by 2030.

Based on responses FEI received for its RFEOI, FEI sees an opportunity to secure multiple long-term contracts ahead of other jurisdictions that have been slower in their adoption of



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Along with our actions to reduce greenhouse gas (GHG) emissions, CleanBC provides an effective blueprint to build our economy. Rising to meet the global challenge of climate change is an opportunity for British Columbia to mobilize our skilled workers, natural resources, and booming technology sector to reduce climate pollution and create good jobs and economic opportunities across B.C. The same innovations that reduce our emissions and improve our quality of life can drive economic growth and help businesses succeed in the global market for clean energy, technologies, products and expertise.

9.1 Please confirm that the CleanBC Plan is on the evidentiary record.

Response:

Confirmed.

9.2 Please confirm that a major thrust of the CleanBC Plan is the promotion and development of economic opportunities within BC in tandem with the movement towards a cleaner environment.

Response:

The Company's understanding is that CleanBC is focused on reducing GHG emissions in BC to achieve its 2030 GHG reduction targets. Furthermore, the provincial government has stated that it believes its GHG reduction goals and economic development goals are mutually reinforcing.

9.3 Please confirm that potential economic opportunities exist for BC businesses, governments or other entities to develop sources of biomethane that are as of yet undeveloped.

Response:

Confirmed. FEI is aware of and is already developing the majority of sources of biomethane in the Province. As discussed in the response to CEC IR 1.7.12, FEI expects that it will need to develop all of the RNG supply available within BC, as well as projects outside of BC, to reach the CleanBC plan target of 15 percent renewable gas content. Therefore, prospective projects in BC will not be hindered as a result of FEI's purchase of RNG from out of Province.

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1 **10. Reference: Exhibit B-1, page 12**

2 **7.3 THE BPAS SUPPORT THE CLEANBC PLAN**

The CleanBC plan proposes a provincial target to achieve a 15 percent renewable gas blend in the downstream gas system by 2030. This target, which is calculated to be approximately 30 PJs per year, will require FEI to increase supply acquisition more quickly and broadly than the status quo. These two BPAs provide a reasonable acquisition price within a reasonable timeframe to support the provincial policy target.

2

3 10.1 Could FEI theoretically work with BC governments or businesses to develop the
4 required 30 PJs of NRG in or before 2030?

5

6 **Response:**

7 The BC Government and industry will play an integral role in supporting FEI's development of
8 renewable gas to achieve the 15 percent target by 2030. However, as discussed in response
9 to CEC IR 1.7.12, FEI expects that it will need to develop all of the RNG supply available within
10 BC, as well as projects outside of BC, to reach the CleanBC plan target of 15 percent renewable
11 gas content.

12 FEI is already working with different municipal governments and businesses to develop RNG
13 supply. For instance, the Vancouver Landfill Renewable Natural Gas project that was recently
14 approved was developed in partnership with the City of Vancouver. FEI has also partnered with
15 the cities of Kelowna and Surrey as well as the regional governments centered in Salmon Arm
16 (Columbia Shuswap Regional District) and Prince George (Regional District of Fraser Fort
17 George) to develop RNG supply.

18

19

20

21 10.1.1 If yes, please comment on the activities that would need to be
22 undertaken to develop these projects.

23

24 **Response:**

25 The activities needed to develop RNG projects include continued engagement between FEI,
26 municipalities and businesses to identify and develop RNG projects. Support for innovation in
27 RNG supply is also critical to expand the potential and lower the costs of RNG. Finally,
28 supportive provincial policies may also be needed to reduce the risk of RNG projects, as well as
29 expand the number of technologies and processes that are allowed under the Greenhouse Gas
30 Reduction Regulation (such as for synthetic gases in BC's pulp and paper sector or hydrogen
31 production).

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1 Please also refer to the responses to CEC IRs 1.7.1 and 1.10.1.

2

3

4

5 10.1.2 If no, please explain why not.

6

7 **Response:**

8 Please refer to the response to CEC IR 1.10.1.

9

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1 **11. Reference: Exhibit B-1, page 9**

3. **Benefits of Proposed Projects**

The two BPAs presented in this application letter provide several benefits to FEI and its ratepayers.

First, these BPAs will reduce emissions in BC. GHGs are not a local issue; rather, climate change is a global issue and any actions taken to reduce GHGs and reduce climate change impacts benefit all, no matter their location. The BPAs reduce GHG emissions in BC by increasing the amount of RNG supply available to FEI's customers. The availability of RNG supply for those customers that wish to participate in FEI's voluntary RNG program means that customers that are currently precluded from signing up for FEI's voluntary program due to supply constraints will be able to subscribe. This is particularly true for large customers such as commercial, institutional and industrial customers, and for customers in the Natural Gas for Transportation (NGT) market segment. There are large NGT customers that wish to participate in the RNG program that are "on hold" until FEI can bring on more RNG supply. The use of RNG in the NGT market will reduce GHG emissions because customers seeking a GHG neutral transportation solution can switch to CNG in anticipation of electing to participate in FEI's RNG program. This switch to CNG from diesel in and of itself reduces GHGs by 10 – 30%⁷. Switching to RNG from conventional CNG further reduces GHG emissions by approximately 75%⁸.

11.1 Please provide evidence of the customers currently precluded from participating in FEI's RNG program.

a. Please provide the total number of customers participating in the RNG program and the volumes by year for the last 10 years.

b. Please include the number of customer requests and volumes by year that are not able to participate due to lack of supply.

c. How many large customers are currently 'on hold' and what are the volumes of those on hold? Please identify by rate class.

Response:

Please note that the RNG program has changed over time and has only been available to serve customers as a voluntary opt-in program since 2011; therefore, data has been provided since that time:

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Year	(i) Customers	(ii) RNG Volumes (TJ)
2011	947	2.72
2012	4,609	19.95
2013	6,403	74.85
2014	6,823	123.06
2015	6,770	150.32
2016	7,481	163.58
2017	8,986	233.10
2018	10,339	276.31

- (i) Customer counts as at the end of each calendar year
- (ii) RNG volumes as at the end of each calendar year

As of August 2019, FEI has temporarily stopped accepting new requests for RNG service and curtailed service to larger volume customers due to supply limitations. FEI estimates that this will prevent approximately 1,500 residential rate class customers from enrolling in 2020, representing an estimated annual 15 TJ shortfall. Given that the number of customer enrolments has, since the adoption of the new BERC rate, scaled up year over year as the program has grown, FEI expects that 1,500 customers represents a lower limit of customers that are not able to participate per year. Similarly, FEI estimates that approximately 20 small commercial customers will not be added to the program in 2020, for an unmet annual RNG demand of 1.5 TJ.

Larger volume customers often approach FEI to determine the availability of RNG, with their decision to subscribe to the service often contingent upon various factors required to make their business case viable. Based on these expressions of interest for RNG among larger volume customers, FEI estimates there to be 15 to 21 customers currently unable to participate, and a requested volume approaching 3,000 TJ which cannot currently be met.

While FEI has provided the requested information above, customers' commitment to purchase RNG supply is not a requirement in the GGRR.

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1 **12. Exhibit B-1, page 12**

The supply purchase prices in the both the Niagara BPA and the London BPA are below the maximum acquisition price in section 2(3.8)(a) of the GGRR of \$30 per GJ.

The maximum volume of biomethane acquisition that would qualify under section 2(3.8)(b) of the GGRR is approximately 8,900,000 GJs. The current maximum supply contracted by FEI including the recently filed BPA for the City of Vancouver, totals 899,250 GJs annually. The actual production for all biomethane projects in 2018 was approximately 180,000 GJs. The combined total maximum supply from both the BPAs will increase the contracted maximum to [REDACTED] GJs annually, which remains below the prescribed amount for the GGRR.

2

3 12.1 If the two projects are completed, and FEI develops all the 1 PJ of potential
4 projects, would FEI still remain below the maximum volume of biomethane
5 acquisition that would qualify as prescribed undertakings?

6

7 **Response:**

8 Yes, FEI will remain below the maximum GGRR volume of approximately 9 PJ with the
9 completion of the two BPAs and 1 PJ of prospective projects in BC.

10

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13. Reference: Exhibit B-1, page 8 and page 6

7.2 EXPANSION OF BIOMETHANE SUPPLY IS IN THE PUBLIC INTEREST

It has been established that the Biomethane Program and increasing biomethane supply is aligned with the Province of BC's Energy Objectives in the *Clean Energy Act*. The BPAs provide further support to this by increasing FEI's biomethane supply with the delivery of biomethane to the FEI System by displacement, thereby growing FEI's Biomethane Program and benefitting BC's environment by reducing the requirement for conventional natural gas and reducing GHG emissions. The Province has further endorsed the use of biomethane to support its objectives by amending the GGRR through OIC 161/2017 as discussed above. FEI is working to expand the supply of biomethane, and acceptance of the BPAs will contribute to this objective.

- Purchase Point and Nomination: In previous biomethane purchase agreements, FEI purchases raw biogas or RNG in BC, which is then delivered onto FEI's system (after being upgraded to RNG in the case of raw biogas). FEI's delivery of this RNG to individual RNG customers is notional in the sense that the molecules of RNG cannot be traced from the point of production to the customer's meter. In the case of the Niagara BPA and London BPA, Tidal Energy will deliver the biomethane from outside of the province to the Huntingdon interconnection point. As the molecules of RNG cannot be traced from the point of production to the purchase point, the exchange of RNG between FEI and Tidal Energy will in this sense be notional. As noted above, FEI has secured the rights to the environmental attributes and greenhouse gas emission reduction benefits of the RNG, such that the full value of the RNG will be received by FEI and its customers.

13.1 Please explain the term 'by displacement' and how it relates to the delivery of biomethane to the FEI system and benefiting BC's environment. Does this reference the notional aspect of the RNG purchases?

Response:

Please refer to the responses to BCUC IRs 1.1.1, 1.2.1, and 1.3.1.

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1 14. Reference: Exhibit B-1, page 10 and page 12

5. Risks and Mitigation

FEI is not providing any capital investment to the [REDACTED] and the [REDACTED] RNG projects as part of the BPAs or otherwise. Therefore, FEI is assuming no capital risk. Due to the RNG projects being located out-of-province, FEI will rely on a third party (Tidal Energy) for assurance of RNG volumes and quality as well as environmental attributes. FEI also has the ability to audit the project in order to ensure accuracy of volumes, gas quality and carbon intensity.

FEI has included measures to mitigate risk to ensure that the BPAs are consistent with previous biomethane projects and established criteria for biogas or biomethane purchase agreements. The risks and associated mitigation measures taken to address the commercial risks are:

- The purchase of biomethane from an out-of-province source: FEI is purchasing RNG in the same manner as it purchases conventional natural gas from out-of-province. The GasEDI standard form of contract for the BPAs relies on established and tested terms and conditions used for many years across North America.
- Reliability of counterparty: FEI has an existing relationship with Tidal Energy for conventional natural gas and Tidal Energy is a reliable supplier. With [REDACTED] as stakeholders in the physical biomethane project locations, FEI is satisfied the risk associated with a long-term reliable supply is low.
- Contract Term and Acquisition Price: The contract terms in the BPAs are for 20 years, which provides a reasonable period over which the biomethane suppliers can recover costs.
- Technical risk: FEI has provided guidance to the supplier based on FEI's experience gained in BC but will ultimately rely upon the project developers to choose upgrader technology that limits their risk. FEI is satisfied that technical competence of the supplier, the advice provided by FEI and the motivation to avoid performance issues will ensure that the upgrader technology is well suited for the project.
- Contract Term and Acquisition Price: The contract terms in the BPAs are for 20 years, which provides a reasonable period over which the biomethane suppliers can recover costs.
- Termination payment: FEI considered the long-term financial viability of the supplier and its parent company with respect to its ability to pay the termination payment in the event of default. FEI is satisfied that, in the event of default, the counterparty can reliably pay any default payment.
- Risk of stranded assets: FEI is not providing any capital investment to the [REDACTED] and the [REDACTED] biomethane projects; therefore, there is no risk to FEI of stranded assets.

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14.1 Please confirm that the price FEI pays per GJ is established in the agreement and will not vary based on production levels or other factors.

Response:

Confirmed, with the exception that the established price includes inflationary increases tied to CPI until it reaches the GGRR threshold price.

14.1.1 If not confirmed, please explain why not and quantify, by % the extent of any changes that could occur in the agreement.

Response:

Please refer to the response to CEC IR 1.14.1.

14.1.2 Please provide the \$ values of potential changes confidentially.

Response:

Please refer to the response to CEC IR 1.14.1.

14.1.3 To the extent that the price/GJ could vary, please provide a maximum to which the price/GJ could rise over the course of term of the agreement.

Response:

Please refer to the response to CEC IR 1.14.1.

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1 14.2 Please provide a brief discussion of the risks FEI would face if there are
2 significant performance issues and how FEI is protected.

3
4 **Response:**

5 There is no risk to FEI in the event that there are performance issues as FEI only pays for
6 delivered RNG. Additionally, in the event of ongoing and persistent shortfalls in the delivery of
7 RNG, FEI is protected with a minimum supply volume. In the event that Tidal does not meet the
8 minimum volumes, FEI may terminate the agreement and Tidal will be required to pay a
9 termination payment.

10
11
12
13 14.3 On what basis did FEI determine that the counterparty can reliably pay any
14 default payment?

15
16 **Response:**

17 FEI has an existing relationship with Tidal Energy for conventional natural gas and Tidal is a
18 reliable supplier. In addition, as a condition of the transaction, FEI has required Tidal to provide
19 performance assurance, or security, in the form of a guarantee from a credit worthy guarantor
20 guaranteeing the payment of the Total Termination Payment. Please refer to Section 15 (a) (ii)
21 of the Transaction Confirmation.

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15. Reference: Exhibit B-1 page 11

6. Future Out-of-Province Supply may use a different Model

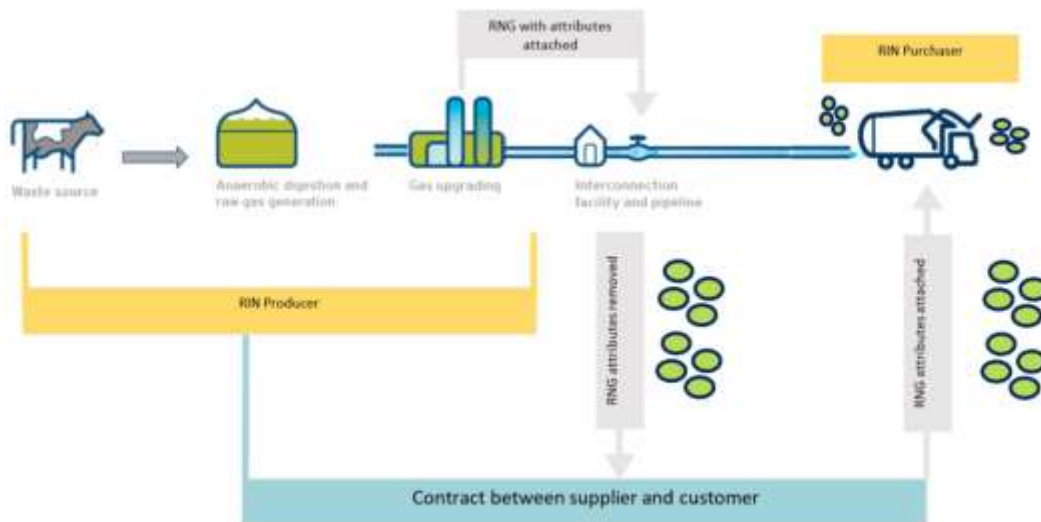
FEI will continue to evaluate out-of-province supply and expects to file additional out-of-province RNG supply agreements for BCUC acceptance. It is possible that FEI may use a different model with other counterparties that is more consistent with the renewal identification number (RIN) market in the United States where transportation costs are not managed in the same way as currently proposed in this application. FEI will ensure such a model provides traceability, emissions reductions and a contractual path to ensure that the emissions benefits can be passed onto FEI customers, similar to the RIN model which is monitored by the United States Environmental Protection Agency (EPA).

15.1 Please elaborate on the differences with the renewal identification number market and the model FEI is pursuing here.

Response:

A Renewable Identification Number (RIN) is a credit that is produced under the Renewable Fuel Standard (RFS) each time a unit of renewable fuel is produced. As shown in Figure 1 below, the RINs can be bought and sold directly from producer to consumer or a marketer can purchase the RINs from the producer and sell to a consumer. When the consumer purchases the RIN they are also purchasing the attributes associated with that unit of renewable fuel. This is why the physical unit of the renewable fuel does not need to be directly delivered to the end customer.

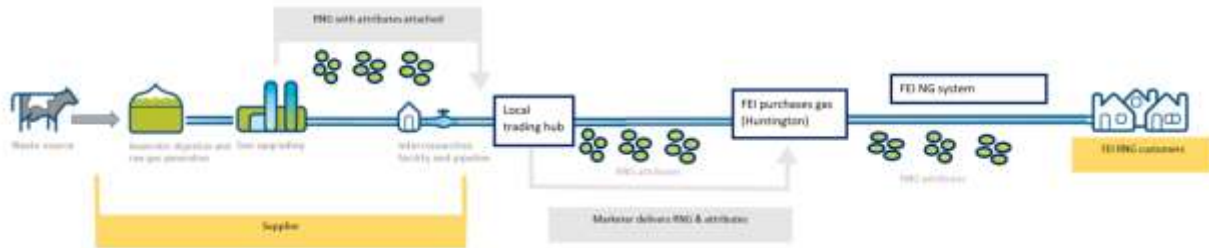
Figure 1: RIN Model



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In the proposed BPAs, transportation to the Huntingdon Trading Hub is part of the price per GJ cost. Notionally, the RNG is moving from the supplier's facility to FEI's distribution system via an existing gas transmission network. This model treats RNG the same as conventional natural gas once it is injected into a natural gas system and is shown in Figure 2 below. Once it meets gas quality standards at the source and is injected into a local natural gas system, it is blended into the greater natural gas network and the gas is moved by displacement. FEI is then able to use the existing accepted practice of moving natural gas and use the standardized terms and conditions of the GasEDI – the gas supply standard across North America. This model expedites the contractual process, uses familiar and common industry language, and provides a means of tracing the delivery of the RNG.

Figure 2: FEI Model



15.2 Please discuss why FEI is not using the RIN market model in either of these projects.

Response:

Please refer to the responses to CEC IR 1.15.1 and BCUC Confidential IRs 1.6.1 and 1.6.2.

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1 **16. Reference: Exhibit B-1, pages 11 and 12**

7.1 THE BPAs ARE PRESCRIBED UNDERTAKINGS

On March 22, 2017, the Province of BC deposited LGIC OIC 161/2017 under BC Reg. 114/2017 (OIC 161) approving an amendment to the GGRR, a copy of which is provided in Appendix D. Section 2 (3.7) and (3.8) of the GGRR as amended by OIC 161-2017 state:

(3.7) A public utility's undertaking that in the class defined in subsection (3.8) is a prescribed undertaking for the purposes of section 18 of the Act.

2

(3.8) The public utility acquires renewable natural gas
(a) for which the public utility pays no more than \$30 per GJ, and
(b) that, subject to subsection (3.9), in a calendar year, does not exceed 5% of the total volume of natural gas provided by the public utility to its non-bypass customers in 2015.

The supply purchase prices in the both the Niagara BPA and the London BPA are below the maximum acquisition price in section 2(3.8)(a) of the GGRR of \$30 per GJ.

The maximum volume of biomethane acquisition that would qualify under section 2(3.8)(b) of the GGRR is approximately 8,900,000 GJs. The current maximum supply contracted by FEI including the recently filed BPA for the City of Vancouver, totals 899,250 GJs annually. The actual production for all biomethane projects in 2018 was approximately 180,000 GJs. The combined total maximum supply from both the BPAs will increase the contracted maximum to [REDACTED] GJs annually, which remains below the prescribed amount for the GGRR.

3

4 16.1 Please confirm that there is no allowance for inflation built into the maximum
5 purchase price in the GGRR.

6

7 **Response:**

8 Confirmed.

9

10

11

12 16.2 Is there any potential for the price to exceed \$30/GJ at any time during the term
13 of the agreement? Please explain and provide confidentially if necessary.

14

15 **Response:**

16 Please refer to the response to BCUC Confidential IR 1.3.1.

17

18

19

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1 16.3 Please confirm that the GGRR does not confine the acquisition of RNG to BC.

2

3 **Response:**

4 Confirmed. There is no requirement in the GGRR that the acquired RNG be produced in BC.