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November 6, 2015

Via Email
Original via Mail

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)

**Application for Approval of Biomethane Energy Recovery Charge (BERC) Rate
Methodology (the Application)**

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

On August 28, 2015, FEI filed the Application referenced above. In accordance with the British Columbia Utilities Commission Order G-147-15 setting out the Regulatory Timetable for the review of the Application and Exhibit A-4 granting an extension to the deadline for filing the IR responses, FEI respectfully submits the attached response to CEC IR No. 1.

If further information is required, please contact the undersigned.

Sincerely,

FORTISBC ENERGY INC.

Original signed by: Michelle Carman

For: Diane Roy

Attachments

cc: Commission Secretary
Registered Parties (email only)

6

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1 **Response:**

2 In order to provide an apples to apples comparison, actual and forecast balances must be
3 adjusted for the value of unsold biomethane supply. The following table provides the actual
4 (pre-tax) balance from Table 3-3 adjusted for unsold supply, compared to the forecast (pre-tax)
5 balance as provided in the applicable Fourth Quarter BVA Report or other relevant application.¹

BVA Balance After Adjustment for Unsold Biomethane Actual vs. Forecast (Pre-Tax and \$000)

	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>
Actual Before Adj.	\$ 59.6	\$ 463.1	\$ 948.8	\$ 1,300.4	\$ 1,843.6	\$ 1,637.0
Actual Unsold Supply (TJ)	6.0	42.3	79.6	99.0	79.9	108.0
Effective BERC	<u>\$ 11.696</u>	<u>\$ 11.696</u>	<u>\$ 11.696</u>	<u>\$ 11.696</u>	<u>\$ 14.065</u>	<u>\$ 14.414</u>
Value of Unsold Supply	\$ 70.2	\$ 494.7	\$ 931.0	\$ 1,157.9	\$ 1,123.8	\$ 1,556.7
Application Cost Adjustment					\$ 452.6	
Actual After Adj.	<u>\$ (10.6)</u>	<u>\$ (31.6)</u>	<u>\$ 17.8</u>	<u>\$ 142.5</u>	<u>\$ 267.2</u>	<u>\$ 80.3</u>
Forecast Before Adj.	\$ (114.9)	\$ (127.1)	\$ 480.7	\$ 660.8	\$ 1,386.7	\$ 1,850.5
Forecast Unsold Supply (TJ)	-	-	55.7	62.2	103.3	158.4
Effective BERC	<u>\$ 9.904</u>	<u>\$ 11.696</u>	<u>\$ 11.696</u>	<u>\$ 11.696</u>	<u>\$ 14.065</u>	<u>\$ 14.414</u>
Value of Unsold Supply	\$ -	\$ -	\$ 652.0	\$ 727.7	\$ 1,452.7	\$ 2,283.7
Forecast After Adj.	<u>\$ (114.9)</u>	<u>\$ (127.1)</u>	<u>\$ (171.3)</u>	<u>\$ (66.9)</u>	<u>\$ (66.0)</u>	<u>\$ (433.2)</u>
Variance	<u>\$ 104.3</u>	<u>\$ 95.5</u>	<u>\$ 189.1</u>	<u>\$ 209.4</u>	<u>\$ 333.2</u>	<u>\$ 513.5</u>

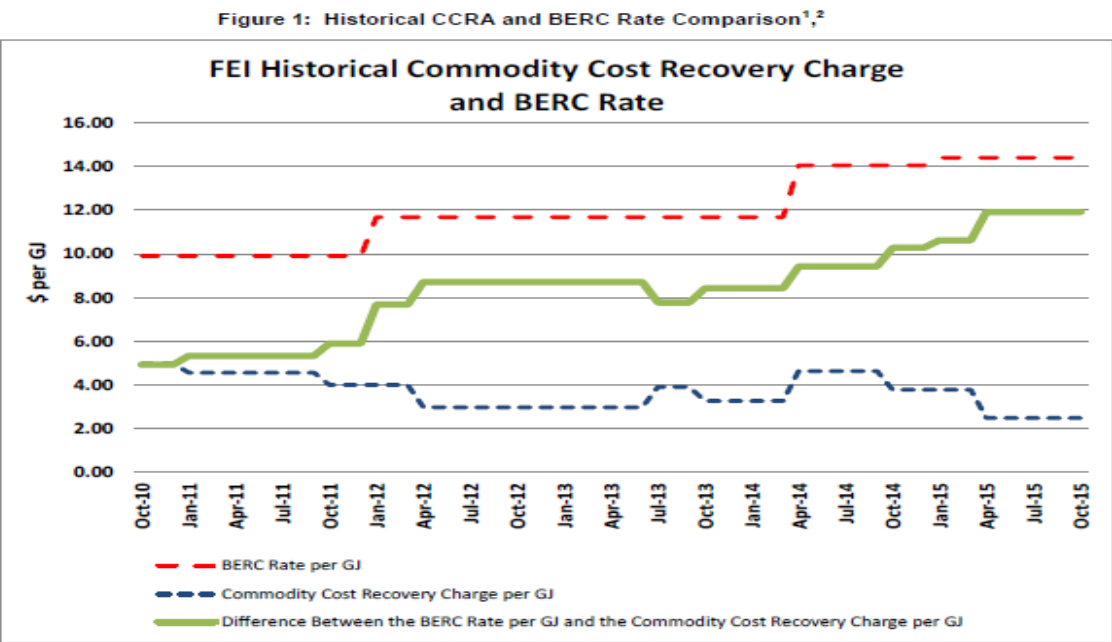
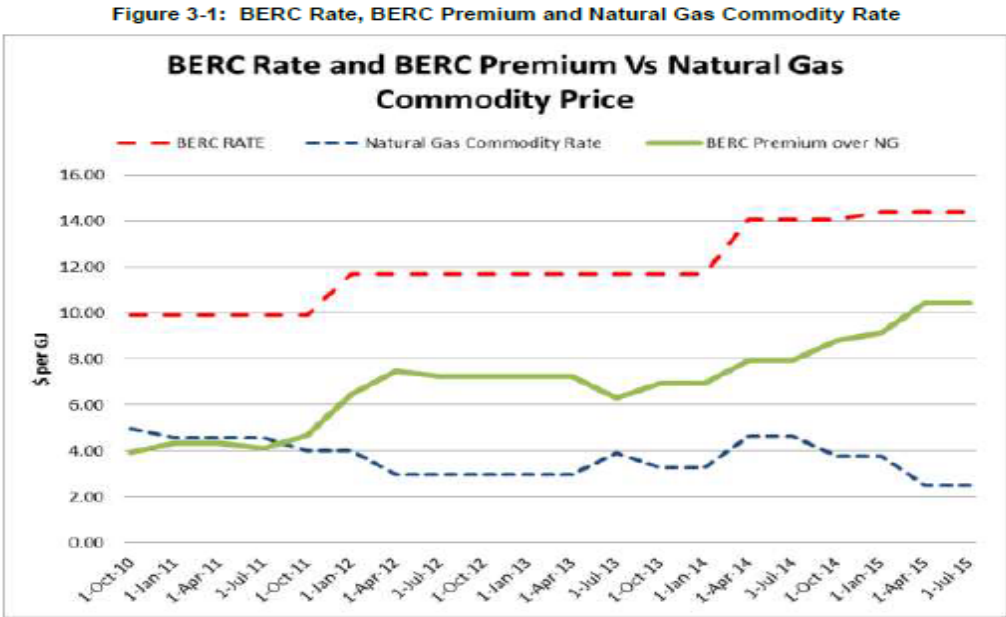
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9 The larger variances between actual and forecast balances in 2014 and 2015 are primarily due
10 to project shut-downs and delays.

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¹ As quarterly reporting was not yet in place for the BVA in 2010 and 2011, the forecast BVA in the 2010 Biomethane Application is used for 2010 and the forecast BVA in the 2012-2013 FEI Revenue Requirements Application is used for 2011.

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1 2. **Reference: Exhibit B-1, Page 11 and Exhibit B-3, Page 3**



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2.1 Please confirm or otherwise explain that the 'commodity cost recovery charge per GJ' and the 'natural gas commodity rate' are the same.

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1 **Response:**

2 Confirmed.

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6 2.2 Please account for the differences between the “BERC Premium over NG” in
7 Figure 3-1 and the “Difference Between the BERC Rate per GJ and the
8 Commodity Cost Recovery Charge per GJ” in Figure 1.

9

10 **Response:**

11 The BERC premium represents the price of RNG (BERC rate) less the sum of the Natural Gas
12 Commodity rate (CCRA rate) and the Carbon Tax. This is the “premium” per GJ as paid by
13 customers and is expressed as:

14 BERC premium = BERC rate – (CCRA rate + Carbon Tax)

15 The difference between the BERC rate and the Commodity Cost Recovery Charge (CCRA rate)
16 is the absolute price difference between RNG and Natural Gas. This does not take into account
17 the credit which RNG receives equal to the carbon tax. This can be expressed as:

18 Difference between RNG and Natural Gas = BERC rate – CCRA rate

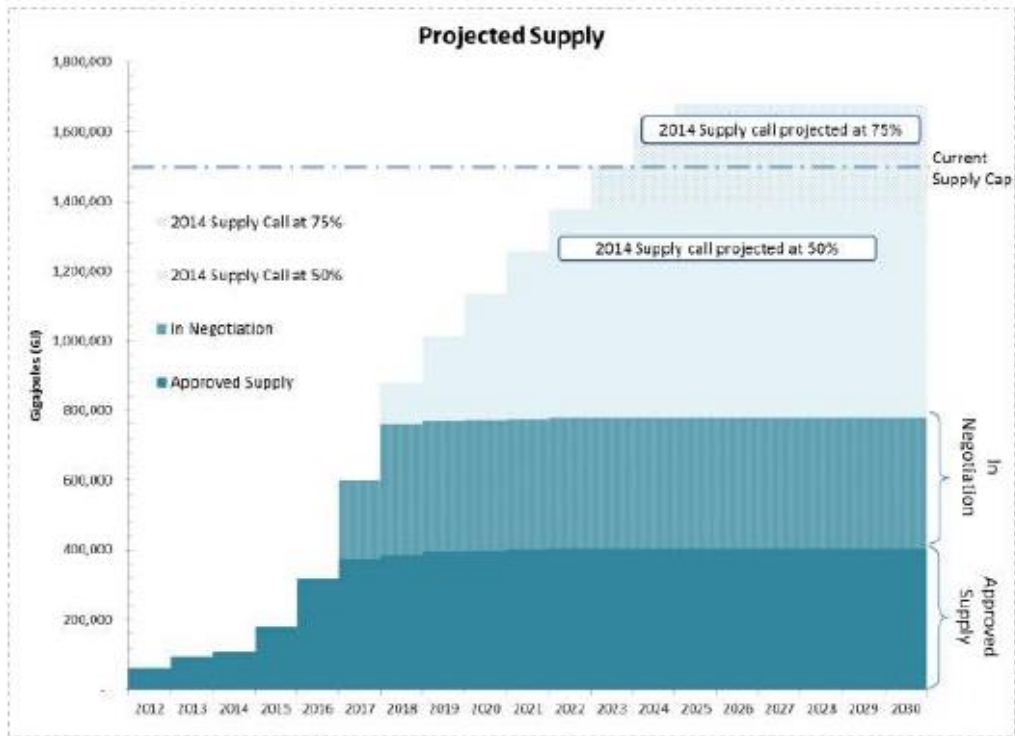
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1 **3. Reference: Exhibit B-1, Pages 14 and 29**

PJ of supply. FEI has therefore estimated the projected growth in supply beyond 2017 using the potential supply identified in the RFEOI. The total potential supply indicated in the graph below is based upon a scenario where FEI develops approximately 50% of the total supply available from the RFEOI and another scenario where 75% of the supply is developed. The 50% scenario is enough to reach approximately 1.4 PJ of total supply by approximately 2023.

Figure 3-3: Forecast RNG Supply, GJ



At the current BERC rate, FEI is projecting that the situation of supply exceeding demand will be exacerbated and the amount of banked biomethane will continue to grow. While Order G-210-13 provides for the ability to transfer unsold biomethane quantities to the MCRA, FEI believes that this transfer will not increase voluntary participation in the program as it results in a BERC rate that is similar to the status quo outlook for the next several years as shown in Table 4-3 below and Table 4-2 above, respectively.

2

3 3.1 Please provide FEI's projected sales curve up to 2024 on the above projected
4 supply chart.

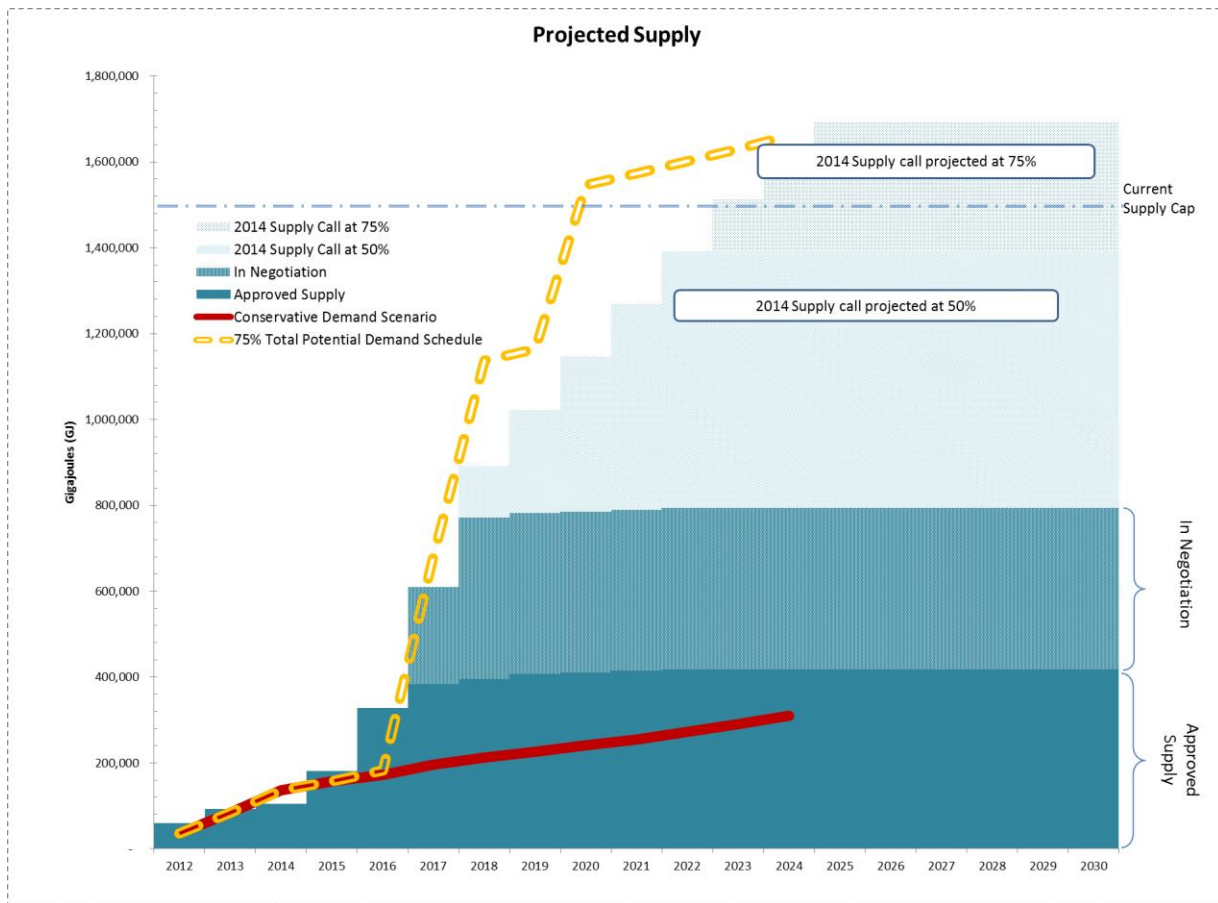
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6 **Response:**

7 The following figure shows FEI's projected sales volume (GJs) for two scenarios under the
8 proposed BERC methodology – the Conservative Demand Scenario and the 75% Total

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- 1 Potential Demand Scenario. It is likely that the demand will be between the two scenarios
- 2 presented below on the graph.
- 3 The Conservative Demand Scenario excludes certain large customers. For example, FEI did not
- 4 include the potential for additional load at the UBC BRDF (BCUC IR 1.18.1) which could add
- 5 40,000 GJ annually.
- 6 The 75% Total Potential Demand Scenario includes a 75% weighting against total known
- 7 potential demand from large volume projects.



3.2 What options, if any, does FEI have to develop less than 50% of the supply?

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1 **Response:**

2 FEI understands “50% of the supply” to refer to the incremental future supply based upon the
3 RFEI that FEI issued in 2014.

4 With this application, FEI is not seeking a change to the RNG supply options or portfolio. FEI
5 continues to follow the BCUC approved volume and price caps with respect to the acquisition of
6 RNG supply.

7 in order to support the overall objectives of the RNG program, and support Provincial objectives,
8 FEI believes that it is reasonable to continue to develop supply at a modest pace and at the
9 same time continue to grow program demand. Specifically, in order to support the growth of
10 Long Term Contract customers, FEI will need to demonstrate that supply of RNG is available;
11 FEI needs to demonstrate that it can supply large volumes in the future in order to secure large
12 volume contracts.

13
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16 3.2.1 If there are options to develop less than 50% of supply, please explain
17 why it is important to develop 50% of the supply when the demand is
18 not materializing.

19
20 **Response:**

21 Please refer to the response to CEC IR 1.3.2.

22
23

24
25 3.3 Could the supply currently ‘In Negotiation’ be deferred or abandoned altogether?
26 Please explain why or why not.

27
28 **Response:**

29 FEI does not believe that it is appropriate to defer or abandon the current supply projects in
30 negotiation. The supply currently in negotiation comes from two contracts – one with the City of
31 Surrey (Surrey) for its biofuel facility and one with the City of Vancouver (Vancouver) for its
32 landfill.

33 In the case of Surrey, FEI has already signed an agreement and is planning to file an
34 application with the BCUC by the middle of November 2015. This agreement represents

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1 approximately 125,000 GJ annually (estimated). However, Surrey intends to use a significant
2 portion of that volume for its own use. This agreement cannot be abandoned or deferred.

3 For Vancouver, FEI is in the final stages of negotiating the agreement. The approximate volume
4 is 250,000 GJ annually. This negotiation could be abandoned or deferred; however, both FEI
5 and Vancouver have agreed in principle to move forward and the volumes and expected price
6 are within the limits approved by the Commission. As such, these negotiations will continue.

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10 3.3.1 If the supply In Negotiation does not have to be developed, please
11 explain why FEI believes it should be under the current conditions.
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13 **Response:**

14 Please refer to the response to CEC IR 1.3.3.
15

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1 **4. Reference: Exhibit B-1, Pages 17 and 20**

As the price of RNG has increased in both absolute terms and relative to natural gas since the beginning of 2015, the blends sign-up pattern has noticeably shifted towards the lower blend options. More specifically, between the launch of the blends in August 2014 and July 2015, there was a noticeable trend away from the higher blends towards the 5% blend option. Although during the last two months, FEI has seen a slight increase in the sign-ups for the higher percentage blends, the 5% and 10% options remain the most popular as shown in Figure 3-6 below. This leads FEI to believe that the higher BERC rate is also discouraging enrollment at 10% and higher blend options as the customers are likely to consider the total bill impact.

The current challenge to the RNG Program is the large premium for RNG compared to the CCRA rate. Market prices for natural gas commodity began to drop significantly in 2009 resulting in a current approved Commodity Cost Recovery Charge of \$2.486/GJ. Thus, with the Carbon Tax of \$1.4898/GJ included, RNG costs \$10.438/GJ more than the current natural gas commodity charge today. The price differential compared to natural gas is contributing to a decline in customer participation from the historical growth levels seen in the first two years of the RNG Program.

2

3 4.1 Please provide any additional information that is not provided in the application
4 that FEI has that relates to price sensitivity/elasticity with respect to biomethane
5 by customer class.

6

7 **Response:**

8 Please refer to the response to BCUC IR 1.23.1.

9

10

11

12 4.2 Please provide any additional information that is not provided in the application
13 FEI has that relates to price sensitivity/elasticity with respect to natural gas by
14 customer class.

15

16 **Response:**

17 FEI does not have additional information on the price sensitivity/elasticity with respect to natural
18 gas by customer class.

19 Please refer to the response to BCUC IR 1.23.1.

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4.3 Please confirm or otherwise explain that if commercial and/or industrial customers were to purchase RNG, the costs would likely be passed on to the end customer.

Response:

FEI does not have any data to conclude that commercial or industrial customers would pass on the costs of purchasing RNG to their end customers. As suggested on page 32 of the Application, the letters of support from commercial customers such as TRU and VIHA indicate that large volume commercial customers may purchase RNG to meet their sustainability strategy or mandate.

4.4 Please provide FEI's views as to whether or not most commercial and industrial customers purchasing RNG anticipate creating a positive image in the eyes of their customers.

Response:

FEI understands that there are some commercial and industrial customers that want to promote themselves as a sustainable business and to be seen as environmentally responsible in the eyes of their customers and the public.

Examples of this include commercial participation in Green Leader Rewards Program offered to commercial and industrial customers who sign up for RNG, linking to their webpages to FEI's RNG webpage as well as participating in FEI RNG videos.

Businesses who participate in the Green Leader Rewards Program have the opportunity to list a brief company profile, webpage link and RNG consumption through the RNG Program web page. These Green Leader Rewards Members also have the opportunity to further cross promote through coupon offers and digital/print ads

Moreover, the business can link to FEI's RNG Program as a means to create a "positive" image. As an example, one of FEI's commercial customers has a link to FEI's RNG website video under a "sustainability" section of its website, while another has a Green Leader icon on its website along with its other accreditations. Another customer has Green Leader window decals on its mobile fleet promoting itself as a sustainable company.

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4 4.5 What opportunities, if any, does FEI provide to commercial and industrial
5 customers to advertise their commitment to reducing their environmental impact
6 through the use of RNG to their customers? Please discuss.

7

8 **Response:**

9 Please refer to the response to CEC IR 1.4.4.

10

² 112 (new enrolments)/5 (months) = 22.4 customers per month.

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1 5.2 To what does FEI attribute the increase in enrollment in 100% RNG between
2 May and July, 2015?

3
4 **Response:**

5 The increase for the 100% RNG option reflects a range in the number of customers between 1
6 and 5 customers per month and therefore there is no clear indication of any trend.

7 Please also refer to the response to CEC IR 1.5.1.

8

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1 **6. Reference: Exhibit B-1, Page 20**

Concurrently, as the BERC increased, FEI scaled back its marketing efforts (thus overhead) to reduce upward pressure on the BERC rate. While marketing efforts have resulted in additional participation in the RNG Program, FEI concluded that the RNG premium had reached a level that any further upward movement of the BERC rate would be more harmful than the benefits of marketing. FEI believes that a return to higher marketing spend levels are required to increase awareness of the RNG program. However, without a change in rate setting mechanism, this spend would result in a higher BERC rate and possibly even lower enrollment.

As a result, FEI believes that a change to the BERC rate methodology is warranted to both foster future program success and to minimize the potential impact of unsold costs on non-RNG ratepayers.

To determine what changes to make to the RNG Program and specifically the BERC rate, the Company relied on its customer data, customer feedback and available market data in addition to the 2013 Biomethane Decision to help guide the proposals in this Application. The declining enrollment, expected pricing based on market evidence and further analysis are more fully described in the following sections.

2

- 3 6.1 Please provide a list of any additional customer information, lifestyle
4 segmentation or other information that FEI has available, such as survey
5 responses or studies that address customer interest in pursuing environmental
6 friendly options that could be applied to purchasing RNG.

7

8 **Response:**

9 For additional research information, please refer to the following responses to IRs:

- 10 • Response to BCUC IR 1.10.1 – Results of 2013 Focus Group Research;
11 • Response to BCUC IR 1.10.2 – Collaboration with UBC Marketing Students;
12 • Response to BCUC IR 1.11.1 – Results of 2014 Residential Survey;
13 • Response to BCUC IR 1.32.1 – Results of 2015 Focus Group Research; and
14 • Response to CEC IR 1.6.1.1 - Customer Profile Analysis, by Kirk Marketing, December
15 2013.

16

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- 19 6.1.1 Please provide the above studies/survey responses etc.

20

21 **Response:**

22 Please refer to Attachment 6.1.1. Please also refer to the response to CEC IR 1.6.1.

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6.1.2 Please discuss how FEI utilized its market segmentation information in its determination of changes to be made.

Response:

Please refer to the responses to BCUC IRs 1.10.1.1 and 1.10.2.

6.1.3 Please discuss how the market segmentation information supports the current decision.

Response:

FEI interprets “current decision” as the proposals in the Application.

The information listed in the response to CEC IR 1.6.1, as well as the evidence presented in section 4.3 of the 2012 Biomethane Application³, indicates that emerging markets exist within the commercial and large volume categories of customers and that these customers may substantially increase the demand of RNG. In the Application, FEI is proposing the Long Term Contract service offering to attract and acquire customers in these segments.

Research for the residential customer segment suggests that there is a greater need for awareness and customer education, specifically on including technical aspects of the RNG Program. This could be addressed through continued, focused marketing efforts. In the Application, FEI is proposing a new BERC rate, along with resumption of customer awareness and education spending to \$300 thousand per year, to achieve more participation by the residential customer segment.

³ Biomethane Service Offering: Post Implementation Report and Application for Approval of the Continuation and Modification of the Biomethane Program on a Permanent Basis, section 4.3. Online at: http://www.bcuc.com/Documents/Proceedings/2013/DOC_33040_B-1_FEI-Biomethane-PIR-Application.pdf

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6.2 Please confirm or otherwise explain that there are significant differences in the value that different customer groups place on reducing their environmental impact.

Response:

Confirmed. Different customers, and different customer groups, place differing value/significance on reducing their environmental impact.

6.3 Please confirm or otherwise explain that 'perceived benefit' is a key determinant as to the price premium that RNG can reasonably achieve over natural gas.

Response:

FEI interprets "perceived benefit" to be the benefits of the RNG program as seen by the customer.

FEI believes that the some of major benefits of the RNG Program from the perspective of a Residential customer may include:

- 'Doing the right thing';
- Reducing the impact on the environment;
- Supporting local/community projects; and
- Creating a sustainable future.

FEI believes that some of the major benefits of the RNG Program from the perspective of a Commercial or Industrial customer may include:

- emissions reductions;
- brand image by participating in environmental or sustainable initiatives; and
- reducing impact on the environment.

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6.4 Please list the major benefits that customers are likely to perceive as a result of purchasing RNG. Please list by customer class or segment if available.

Response:

Please refer to the response to CEC IR 1.6.3.

6.5 Please provide any segmentation that FEI has conducted that addresses customer (residential, commercial or industrial) interests in pursuing environmentally friendly options.

Response:

Please refer to Attachment 6.5 which contains an excerpt from the 2012 Biomethane Application, section 3.2, pages 23-29.

6.6 Does FEI provide targeted marketing such that those customers who are committed to reducing their environmental footprint receive information?

Response:

Yes. FEI has previously targeted existing RNG customers through the FEI Renewz newsletter, and has attended events with a green or sustainability focus to reach potential new customers directly. FEI has also participated in associations such as the Environmental Managers Association to increase awareness within specific industry sectors.

6.6.1 If yes, please explain how it is accomplished.

Response:

Please refer to the response to CEC IR 1.6.6.

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4 6.6.2 If no, please explain why not.

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6 **Response:**

7 Please refer to the response to CEC IR 1.6.6.

8

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1 **7. Reference: Exhibit B-1, Pages 22 and 28**

The enrollment spikes can be explained by specific historical actions. The first spike in signups in 2011 was during the launch phase when FEI was marketing more broadly, and many early adopters enrolled. Spikes two, three and four (in April 2012, December 2012 and October 2013) corresponded with the three marketing promotions conducted with Air Miles.

4.2.2 Reduction in Marketing Spend

Pursuant to Order G-210-13, marketing costs are to be included in the BERC rate. In the circumstances where there is a high premium of RNG over natural gas that causes a reduction in RNG Program participation, increased marketing spend will likely, all things equal, increase participation in the RNG Program. However, increased market spend will result in an increase in the BERC rate, which may then cause less participation in the RNG Program. FEI has thus made the decision to reduce marketing spend at this time as customer feedback (as further described in Section 5.1) suggested that the high RNG rate was the major barrier to participation. At the time FEI had anticipated that the RNG Program was sufficiently advanced that customers would continue to sign up with the lower level of marketing spend. However, as demonstrated above, customer participation in the RNG Program is dropping.

The following table provides a history of the marketing expenditures per year embedded in the RNG Program Overhead Costs.

Table 4-1: Approximate RNG Program Marketing Costs, \$ Thousands

Year	Marketing Costs (Approx.)	Comments
2011	\$385	Launch year. Included multiple media channels
2012	\$301	Targeted approach using most effective channels
2013	\$321	Consistent approach as 2012
2014	\$167	Comparable spend to 2013 would have added ~ \$0.70 per GJ to BERC rate
2015 (F)	\$175	Projected spend

2

3 7.1 Please provide the marketing spend by year and customer class.

4

5 **Response:**

6 Please refer to the response to BCUC IR 1.9.1.

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10 7.2 What is the estimated forecast marketing spending for 2016 and beyond?
11 Please provide by year and customer class as far as practicable.

12

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1 **Response:**

2 Please refer to the response to BCUC IR 1.43.1.

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6 7.3 What would be the average expected bill impact of marketing spend of \$300
7 thousand for the following customers in both \$ and %?

8 • Small residential

9 • Average residential

10 • Large residential

11 • Small commercial

12 • Large commercial

13 • Industrial customer

14

15 **Response:**

16 With respect to RNG customers and the proposed change in methodology, the increase in
17 marketing spend does not have an effect on the BERC rate and as such, there is no direct bill
18 impact under the RNG rate schedules due to the marketing spend of \$300 thousand. As shown
19 on Schedule 4 of Appendix E, the forecast quantity available of supply is 418.85 TJ in 2016 and
20 grows to 2,884.82 TJ in 2020. Thus, if the BERC was determined on a cost basis, the
21 incremental increase of \$125 thousand would equate to approximately \$0.30 per GJ in 2016
22 and approximately \$0.04 per GJ in 2020.

23 If calculated based on all non-bypass customers, the average expected bill impact of a
24 marketing spend of \$300 thousand in 2016 would range from \$0.10 to \$17.87 per year for
25 residential and industrial customers, respectively, and approximately a 0.02% to 0.03% annual
26 bill impact. Please refer to the table below.⁴

⁴ FEI's average residential customer consumption (mainland) is 90 GJ, therefore for the purpose of this IR response an adjustment of 30 GJ was deducted from the average residential usage to determine an estimated small residential consumption of 60 GJ (90 – 30 = 60). To determine a large residential customer usage, 30 GJ was added to the average residential consumption (90 + 30 = 120 GJ).

The table above is based on the average annual consumption for mainland Small commercial, Large commercial and Industrial customers, while delivery rates, storage and transportation rates used was effective January 1, 2015. The cost of gas rates (CCRA) applied was effective April 1, 2015.

This high level analysis excludes the impact of capitalized overheads

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Impact of Marketing Costs

Particulars	2016
Marketing Cost (\$,000)	300
Divided by GJs (all non-bypass)	175,315.3
Impact to customers per \$/GJ	<u>\$ 0.00171</u>

Customer Type (\$ Impact & %)	Volume GJ	2016
Small Residential	60	\$ 0.10
Calculated Bill (\$)		\$ 584.82
Percentage Impact (%)		0.018%
Average Residential	90	\$ 0.15
Calculated Bill (\$)		<u>\$ 806.19</u>
Percentage Impact (%)		0.02%
Large Residential	120	\$ 0.21
Calculated Bill (\$)		<u>\$ 1,027.56</u>
Percentage Impact (%)		0.02%
Small Commercial	329	\$ 0.56
Calculated Bill (\$)		<u>\$ 2,515.87</u>
Percentage Impact (%)		0.02%
Large Commercial	3,602	\$ 6.16
Calculated Bill (\$)		<u>\$ 23,331.90</u>
Percentage Impact (%)		0.03%
Industrial Customer	10,443	\$ 17.87
Calculated Bill (\$)		<u>\$ 60,786.03</u>
Percentage Impact (%)		0.03%

7.4 Was the Air Miles program primarily related to residential customers or did it include commercial and industrial customers as well?

Response:

The Air Miles offer was only available to residential customers.

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7.5 Why did FEI discontinue the Air Miles program?

Response:

FEI discontinued the Air Miles program because the Commission denied recovery of costs associated with the Air Miles program on a go forward basis.⁵

7.6 What was the cost/GJ of the Air Miles program?

Response:

FEI interprets “cost/GJ” to be the total retention and acquisition cost of the Air Miles program compared to the volume of GJs which were added to the RNG Program. The costs of the Airmiles program when in market were recovered from all sales customers. As such there is not a cost per GJ amount.

The approximate total cost of the Air Miles Program from 2012 to 2014 was \$130,000, which is a combination of retention, acquisition and program marketing costs.

7.7 Please provide further details with quantification as to the expected increase in participation that would likely arise from an increase in the marketing spend.

Response:

Please refer to the responses to BCUC IRs 1.43.2 and 1.43.3.

7.8 What would be the likely impact of an increase in the marketing spend to \$300 thousand for 2015 and continuing thereafter?

⁵ G-210-13, Reasons for Decision, at page 93.

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1 **Response:**

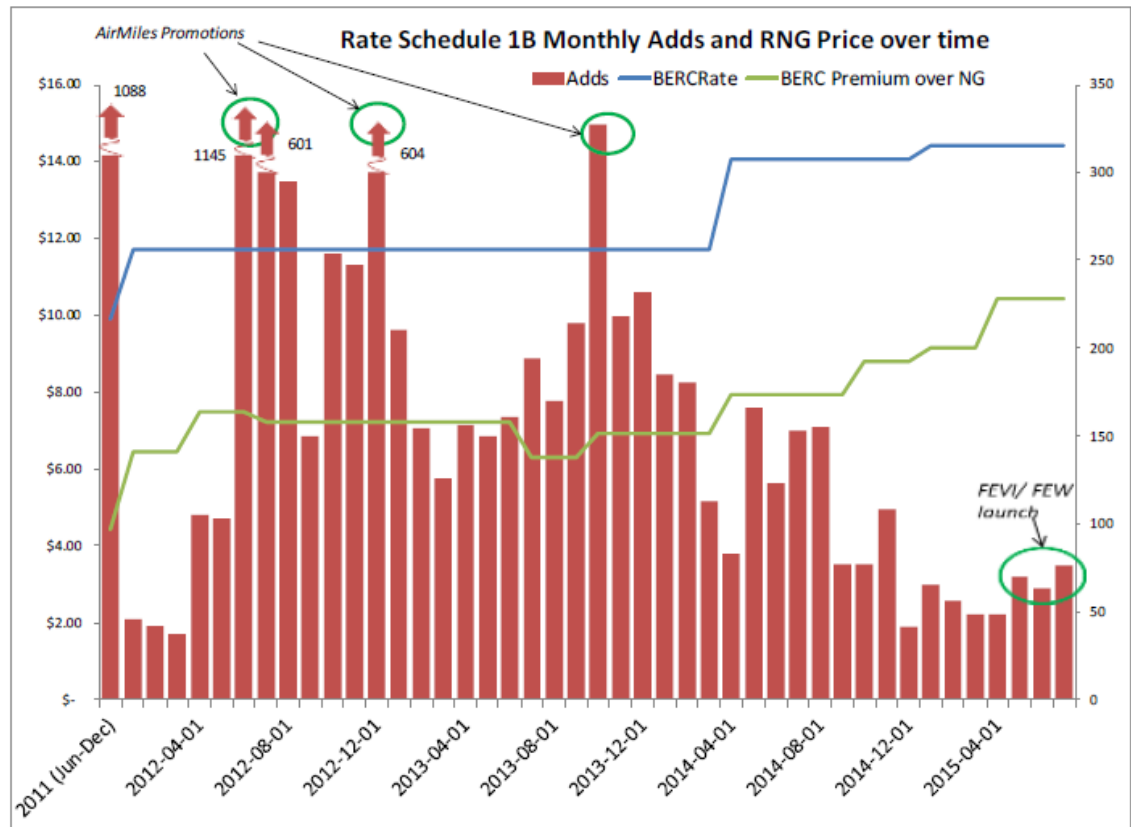
2 Please refer to the responses to BCUC IRs 1.43.2 and 1.43.3.

3

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1 **8. Reference: Exhibit B-1, Page 22**

Figure 4-2: Residential Monthly Additions Compared to RNG Price



2

3 8.1 What is cost of residential marketing spending on a per GJ basis?

4

5 **Response:**

6 FEI spends marketing dollars to inform, educate and create awareness of the RNG program for
7 the entire customer base of nearly 1 million customers. The marketing activities are also
8 designed to attract and retain RNG customers. Some marketing activities are targeted to
9 residential customers others are targeted at commercial or industrial customers, but all
10 customers receive and benefit from the marketing activities regardless of their rate class. Thus,
11 the average cost per GJ for marketing is more properly calculated by dividing the total spend by
12 the total system throughput which equals approximately \$0.001 per GJ.⁶

⁶ 2011-2015 total spend of \$1,348,601 / 5 / 207,775 TJ (FEI total 2016 forecast demand, Evidentiary Update to Annual Review for 2016 Rates).

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1 Using the percentage breakdown provided in BCUC IR 1.9.1 (FEI estimates that approximately
2 60% of marketing costs were generally more targeted for residential customers) the marketing
3 spend per GJ for residential customers is equal to approximately \$0.002 per GJ.⁷

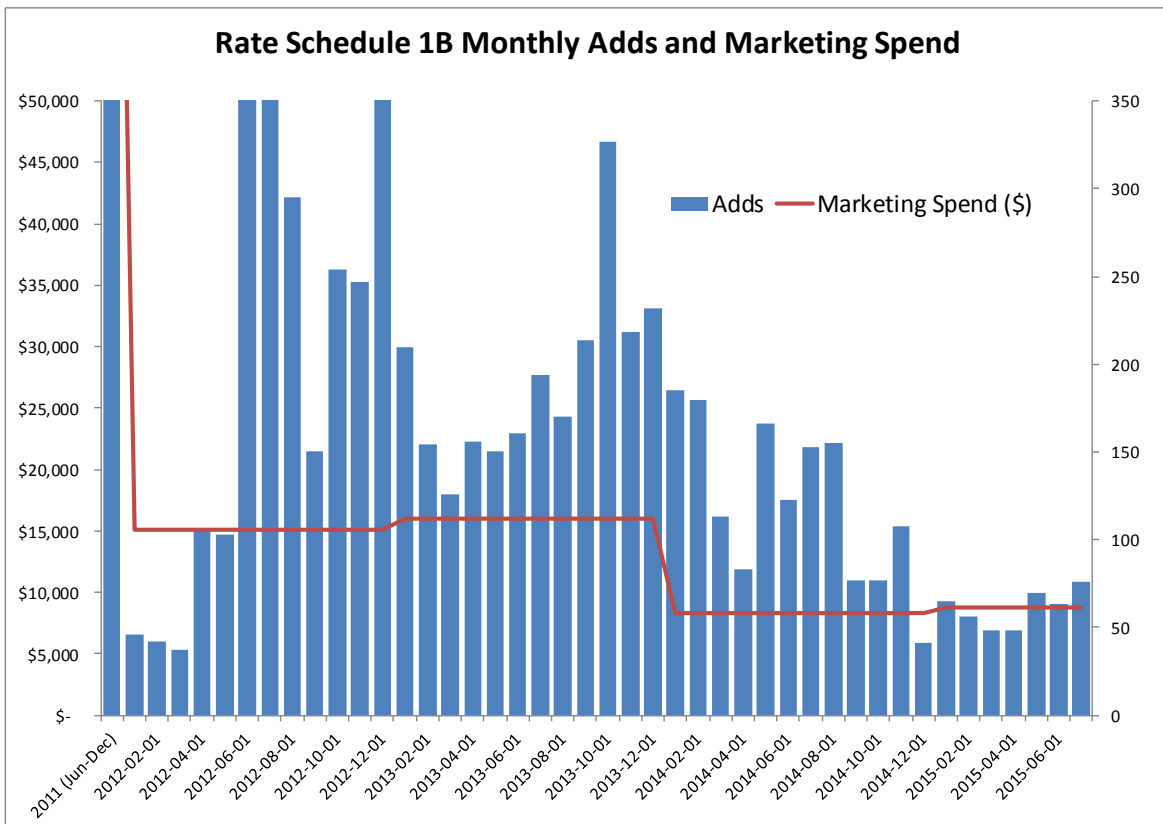
4
5
6
7
8 8.2 Please graph marketing spending on the above chart.
9

10 **Response:**

11 The figure provides the monthly residential additions as compared an allocation of 60% of the
12 total marketing spend for each year as identified in the response to BCUC IR 1.9.1 (divided by
13 12 for the monthly spend).

⁷ 2011-2015 total spend of \$1,348,601 / 5 / 72,466 TJ (FEI 2016 Residential forecast demand, Evidentiary Update to Annual Review for 2016 Rates).

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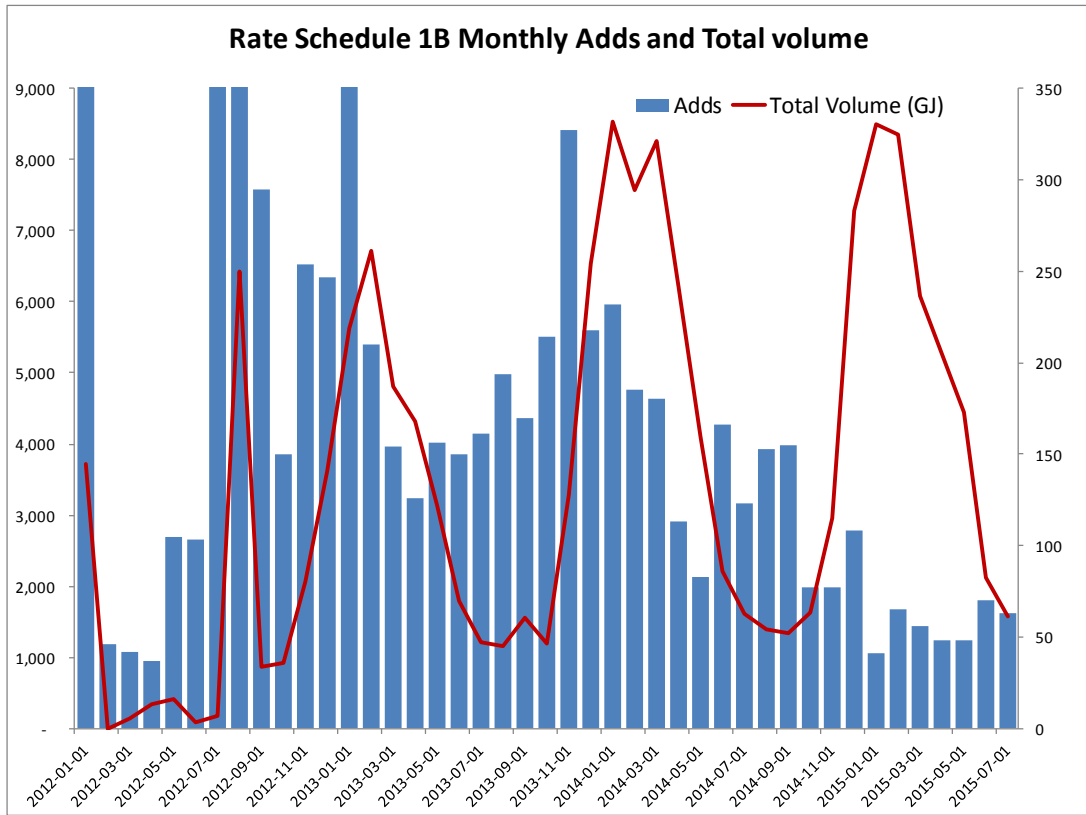


8.3 Please provide the total volumes on the above graph.

Response:

The following figure shows the Rate Schedule 1B total volumes compared to additions as requested. FEI interprets “total volumes” as the total recorded monthly volumes in GJ for Rate Schedule 1B customers.

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1 **9. Reference: Exhibit B-1, Page 24**

Figure 4-4: Small Commercial Net Monthly Additions Compared to the RNG Price

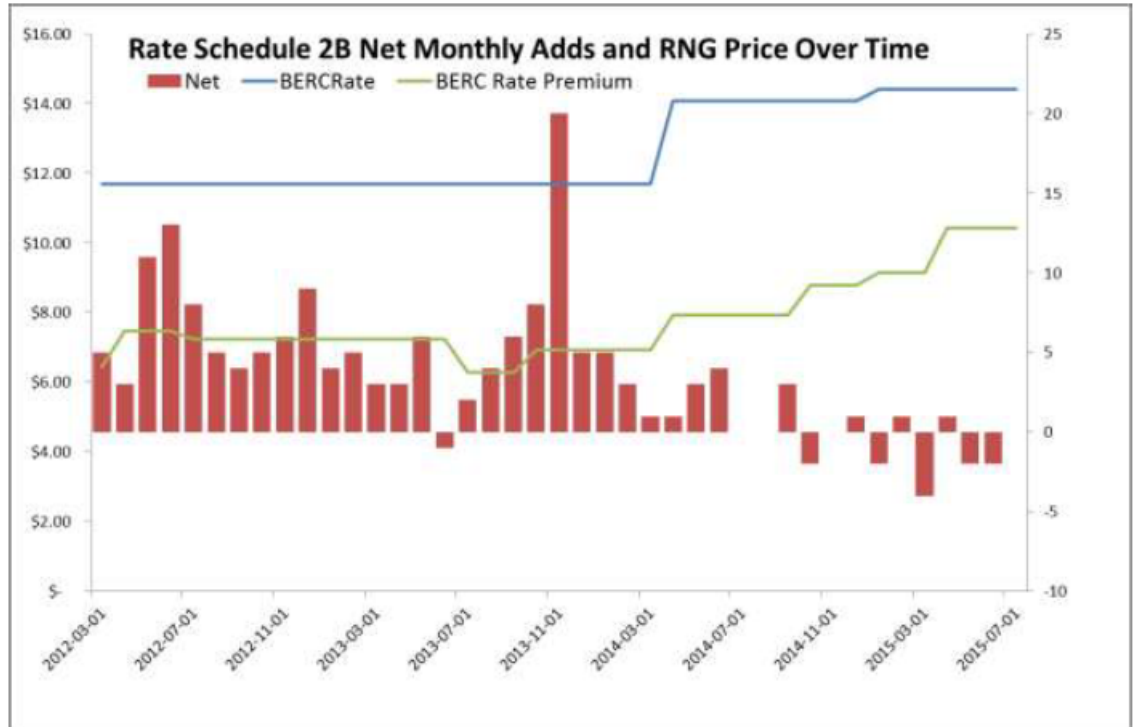


Figure 4-5 below shows the monthly additions in relation to the BERC rate. The monthly additions to the RNG Program show a general pattern of decline as the BERC rate increases. FEI was able to add an average of seven customers per month over the 2013 calendar year while adding an average of three customers per month in 2014 subsequent to the BERC rate increase. The notable spike in sales in the final quarter of 2013 is attributable to FEI temporarily allocating a sales person to undertake a commercial sales push, indicating that the additional expenditure may have had a positive impact on demand.

2

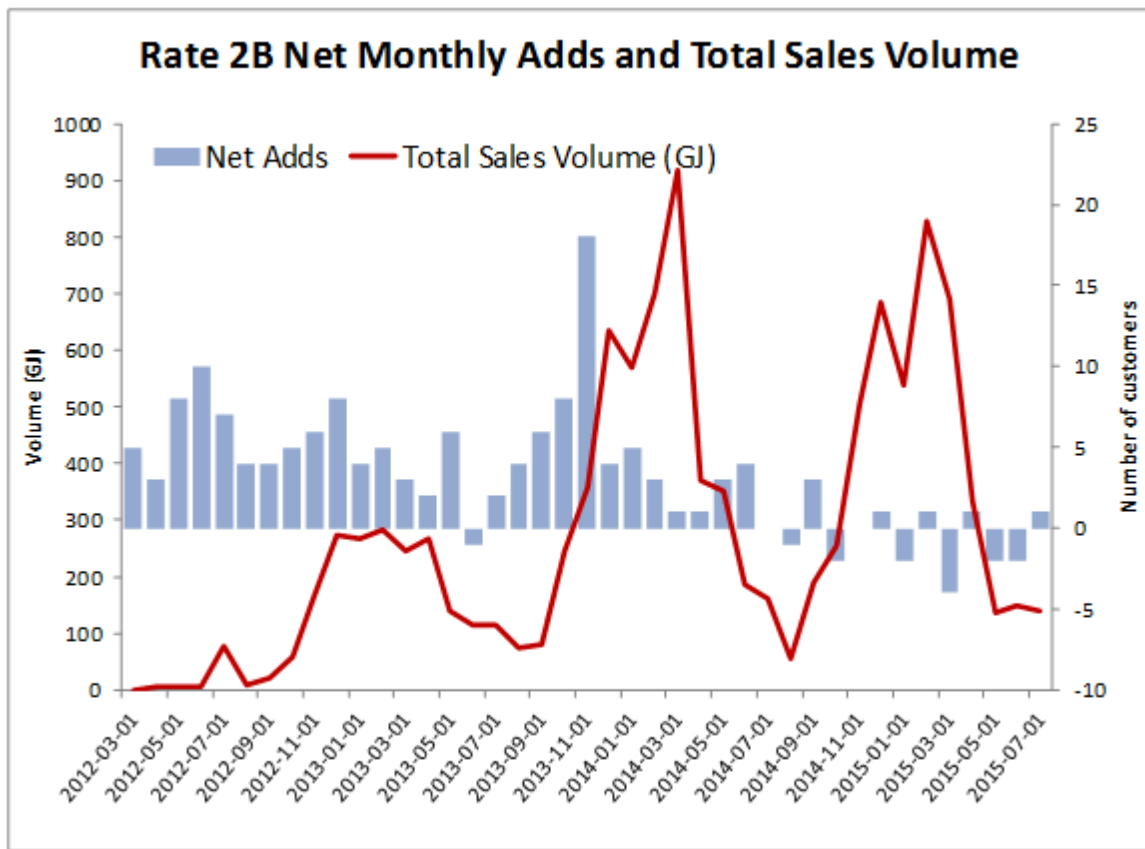
3 9.1 Please provide total sales volumes in the above graph.

4

5 **Response:**

6 The following figure show the Rate Schedule 2B total sales volume compared to additions.. FEI
7 interprets “total sales volumes” as the total recorded monthly volumes in GJs for Rate Schedule
8 2B customers.

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9.2 Did FEI discontinue the allocation of a sales person?

Response:

Yes. FEI discontinued the temporary RNG commercial sales position in February 2014.

9.2.1 If so, when did FEI do so?

Response:

Please refer to the response to CEC IR 1.9.2.

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9.2.2 If so, why did FEI do so?

Response:

FEI needed a specific sales person to spur sales efforts and identify sales opportunities for RNG as the RNG program was in its early stages. The sales person completed these activities and now direct sales activities are undertaken by all Energy Solutions sales staff. Please also refer to BCUC IR 1.13.2

9.3 What, if any, was the cost to the RNG customer and the base customers of the allocation of a salesperson in the final quarter of 2013?

Response:

Please refer to the response to BCUC IR 1.44.1.

9.4 What, if any, would be the cost to the RNG customer and the base customers of the allocation of a salesperson in 2016?

Response:

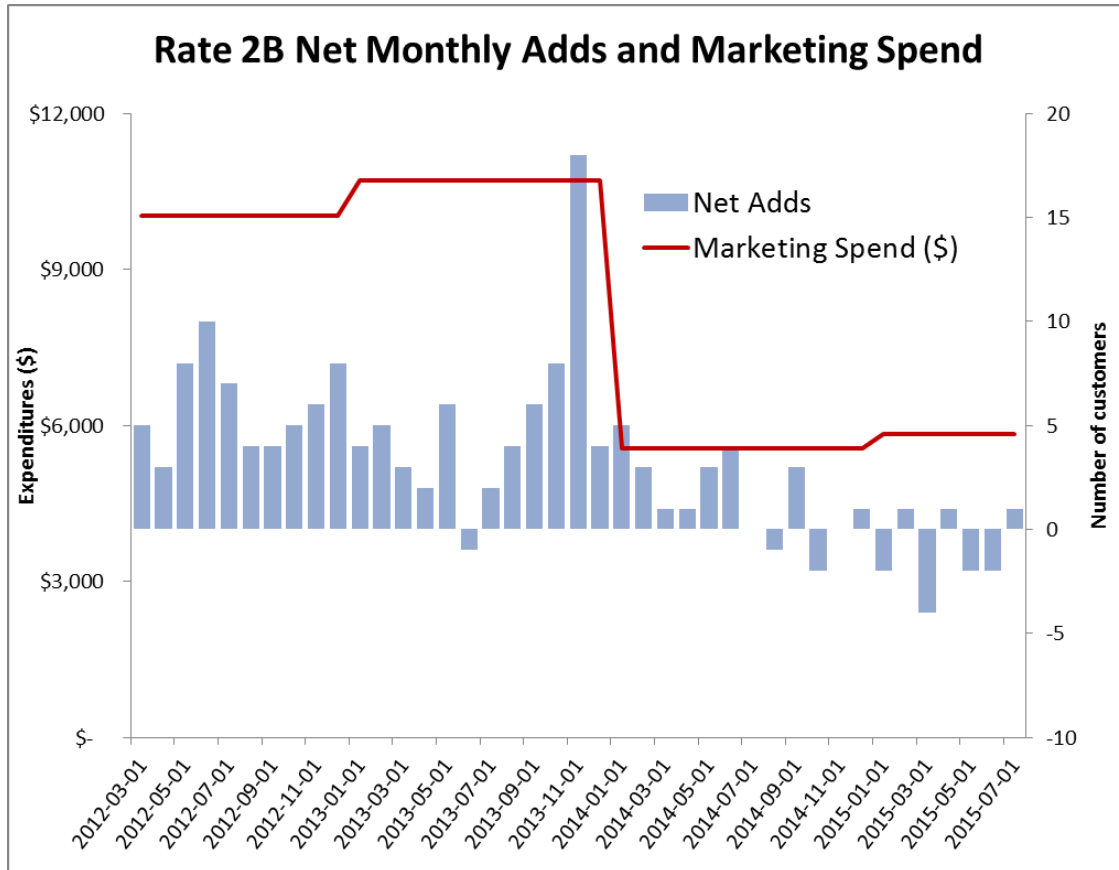
The cost of allocating a salesperson in 2016 for the entire year would be approximately \$80 to \$100 thousand. This is twice the amount indicated in response to BCUC IR 1.44.1 as that amount was for approximately 6 months.

9.5 Please plot the marketing spend on the above graph.

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1 **Response:**

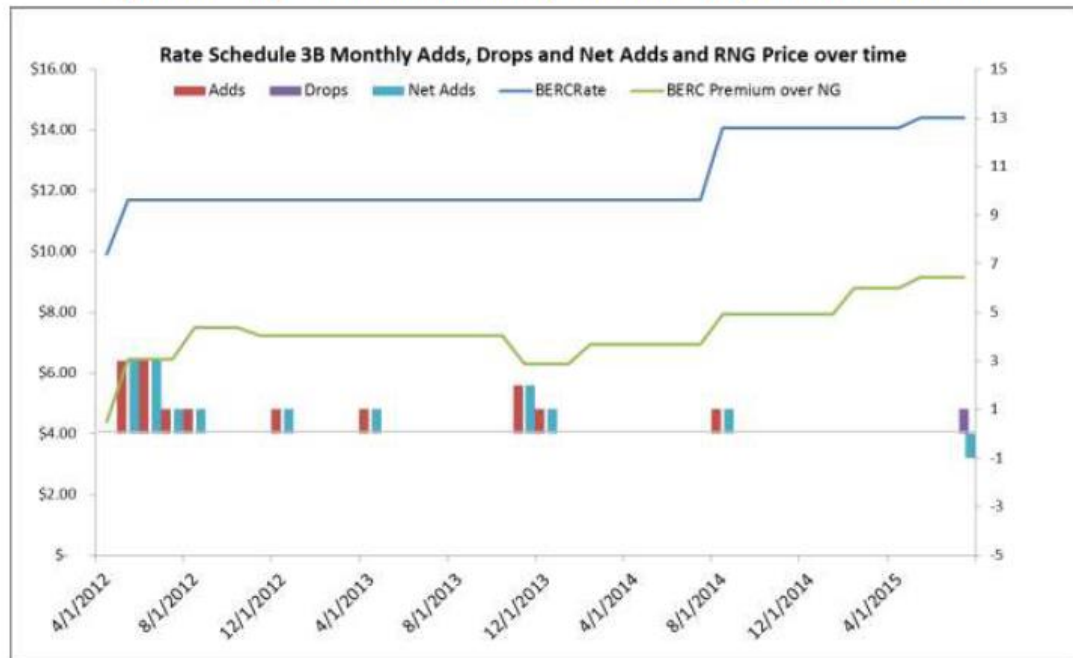
2 The figure below provides the monthly Rate Schedule 2B additions as compared an allocation
3 of 40% of the total marketing spend for each year as identified in the response to BCUC IR
4 1.9.1 (divided by 12 for the monthly spend). Please note that the high level allocation of
5 marketing spend to commercial customers includes both Rate Schedule 2B and 3B customers.



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1 **10. Reference: Exhibit B-1, Page 27**

Figure 4-7: Large Commercial Adds, Drops and Net - Compared to the RNG Price



A trend is much more difficult to identify in this rate class due to the relatively small number of customers.

2

3 10.1 Please provide the large commercial volumes in graph form over the same

4 period.

5

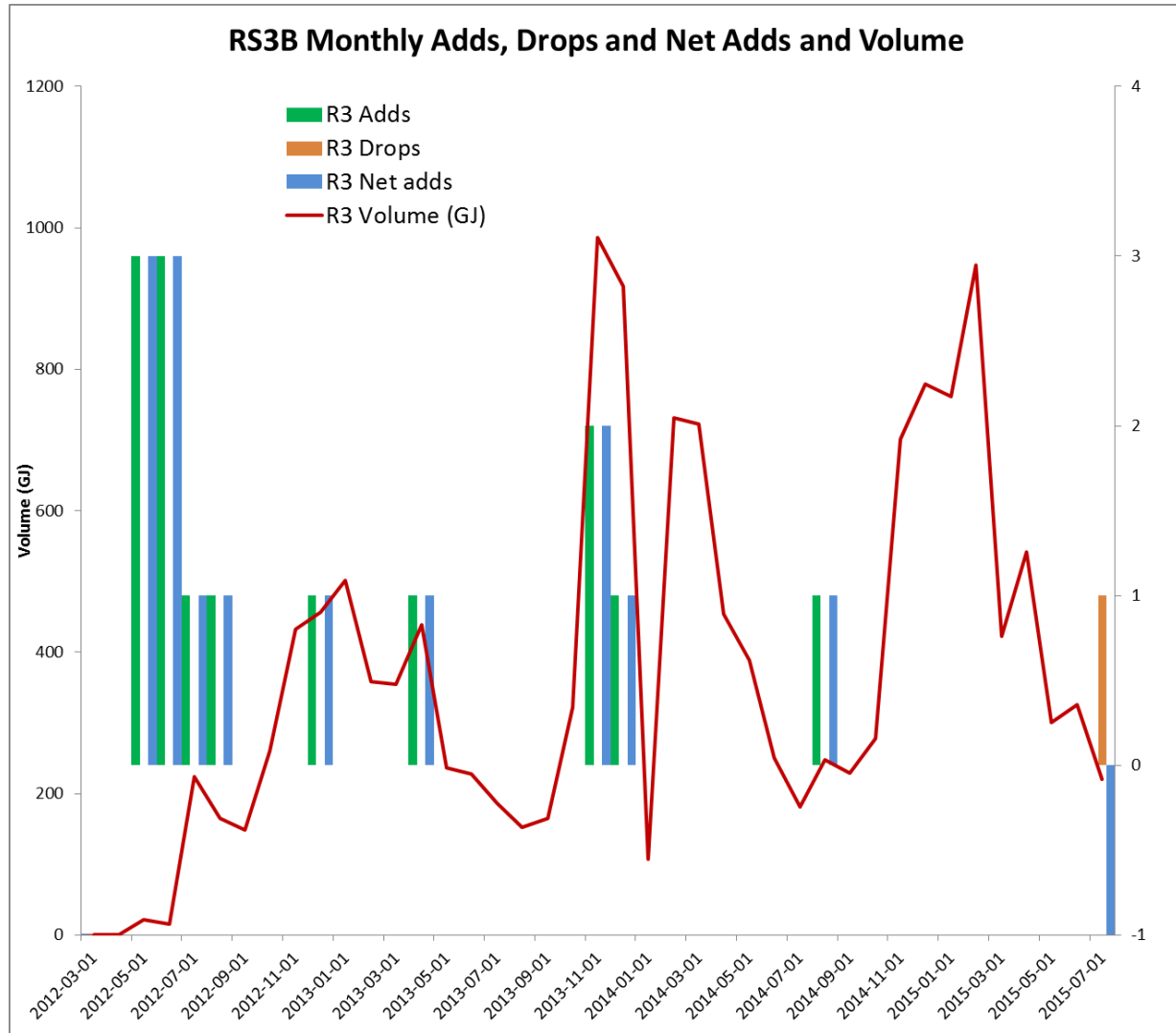
6 **Response:**

7 The following figure show the Rate Schedule 3B volumes compared to additions as requested.

8 FEI interprets “the large commercial volumes” to be the recorded monthly volumes in GJs for

9 Rate Schedule 3B customers, which is included in the following figure.

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10.2 In what ways has FEI continued to support its large commercial customers over time?

Response:

FEI supports its large commercial customers through relationships with key account managers and product and newsletter promotion.

As noted in response to BCUC IR 1.15.1, Key Account Managers work directly with large volume commercial customers to communicate program changes and understand their

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business objectives, including how RNG can best support them. Through this process, large commercial customers have identified the cost of RNG as being a barrier to increasing levels of consumption. This feedback formed part of the basis for FEI to propose a revised BERC methodology to support customers.

Please also refer to the response to CEC IR 1.4.4.

10.3 In what ways has FEI continued sales and marketing campaigns for its large commercial customers? Please discuss with time frames and provide quantification of the marketing expenditures.

Response:

FEI large commercial customers are included in the following RNG marketing activities:

- Bill inserts – distributed annually;
- FEI purchased products for RNG Prize lottery – conducted monthly;
- Newsletter – distributed quarterly; and
- Direct interaction with FEI Key Account Managers.

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1 **11. Reference: Exhibit B-1, Page 29**

Table 4-2 below provides the forecast balance in the BVA and BERC rate if the existing situation continues. Ultimately, if left unaddressed, FEI believes that BERC rate levels with significant RNG premiums will result in a situation where there may be a very limited number of voluntary RNG customers, and, as such, nearly all of the costs of the RNG Program will be left to be recovered from non-RNG customers.

Table 4-2: Status Quo BERC Rate and BVA Five Year Outlook²⁸

	2016	2017	2018	2019	2020
BVA Balance (\$000)	3,464	9,208	19,088	29,838	42,928
BERC Rate (\$/GJ)	16.60	16.51	16.98	16.86	16.97

In accordance with the 2013 Biomethane Decision, FEI is currently notionally banking unsold biomethane. Banking is an important aspect of the RNG Program because it accounts for situations where supply is greater than demand in a given period, and it likewise reduces risk of undersupply (i.e. where demand is greater than supply). FEI has observed both situations since the 2013 Biomethane Decision. For example, during the 2014 calendar year, FEI sold more biomethane than it purchased; but during the summer months of 2014, FEI was purchasing more biomethane than it sold.

2

3 11.1 Please confirm or otherwise clarify that renewable natural gas is delivered into
4 the system, regardless of whether or not customers purchase the supply.

5

6 **Response:**

7 Confirmed.

8

9

10

11 11.1.1 If confirmed, please also confirm that those customers purchasing RNG
12 supply are contributing to mitigating the costs of the service from which
13 all natural gas customers are benefitting to the extent that RNG as a
14 service is a benefit.

15

16 **Response:**

17 Confirmed.

18

19

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11.2 Please confirm or otherwise explain that the larger the customer base for RNG, the less costly the impact on any individual customer.

Response:

It is confirmed that growing the RNG customer base will increase the volume of RNG sold and as such is expected to reduce the impact on all customers because of the additional revenue; however, it is the volume consumed by RNG customers ultimately leading to the revenue collected from RNG customers that is the key factor; a smaller customer base consuming high volumes of RNG could result in more revenue than a larger customer base consuming small volumes of RNG.

Under the proposal in the Application, the larger the volume consumed by RNG customers the lower the financial impact is on non-RNG customers.

11.3 Please provide the relevant government directions and/or legislation which supports the development and/or expansion of the biomethane service.

Response:

There is no legislation or government direction that FEI is aware of that directly addresses the development of the RNG Program.

However, the government has enacted legislation such as the Clean Energy Act which encourages low-carbon fuel sources. This was recognized by the Commission in the 2013 Biomethane Decision, which states that:

*“the current Application is consistent with government policy as outlined in the BC Energy Objectives and the CEA [Clean Energy Act]”.*⁸

Additionally, with respect to the RNG program specifically, the BC Government has issued a tax bulletin providing a tax incentive for biomethane customers (page 4 of attached Carbon Tax Notice provided in Attachment 11.3).

Further, the Climate Action Secretariat has indicated the use of Biomethane can be used by public service organizations to get credit in reporting carbon emissions (also provided in Attachment 11.3).

⁸ Page 8 of the 2013 Biomethane Decision.

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11.4 Has FEI been able to have RNG utilized in any district energy systems? Please explain.

Response:

In the first year of the program, FEI made a single, one-time sale to a district energy system. Since that time, FEI has not seen any district energy systems use RNG; however, RNG is available as an option for any district energy system that uses natural gas to produce heat.

11.5 What, if any, would be the impact of having RNG utilized in a district energy system such as the proposed NE False Creek and Chinatown DES?

Response:

As noted in the Creative Energy CPCN application, FEI has sufficient quantity to serve the NE False Creek area either directly to end use customers if the buildings employ in-building heating systems, or via a centralized district energy system. Similar to the addition of other RNG customers, any additional load sold through the RNG rate schedules will close the gap between RNG supply and demand, potentially resulting in a lower BVA balance.

11.6 Would mandating the use of RNG into district energy systems provide a significant increase in the demand for RNG such that it would influence the BVA balance and/or BERC rate? Please discuss the impact of such a mandate and provide quantification where possible.

Response:

As stated in the Creative Energy NE False Creek CPCN, FEI supports the concept of customers having choice in their energy decisions. Developers should be able to choose the type of energy system that best meets their needs. Customers also have choice when either purchasing a house or condo or installing heating equipment.

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1 Please also refer to the response to CEC IR 1.11.5.

2
3
4 11.7 Please provide FEI's views as to the appropriateness of the Commission to,
5 within the limits of its jurisdiction, be proactive in maximizing the customer base
6 for RNG.
7

8 **Response:**

9 The Commission has already determined that the Biomethane Program is in the public interest
10 and the Application seek changes to the methodology of setting the BERC rate in order to
11 maximize the recovery of costs of the program from RNG-customers. As such, the approvals
12 sought in the Application are squarely within the Commission's ratemaking powers pursuant to
13 the *Utilities Commission Act*.
14

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1 **12. Reference: Exhibit B-1, Page 29**

At the current BERC rate, FEI is projecting that the situation of supply exceeding demand will be exacerbated and the amount of banked biomethane will continue to grow. While Order G-210-13 provides for the ability to transfer unsold biomethane quantities to the MCRA, FEI believes that this transfer will not increase voluntary participation in the program as it results in a BERC rate that is similar to the status quo outlook for the next several years as shown in Table 4-3 below and Table 4-2 above, respectively.

Table 4-3: BERC Rate and BVA Five-Year Outlook with Transfer of Unsold Quantities²⁷

	2016	2017	2018	2019	2020
BVA Balance (\$000)	3,464	9,208	9,988	5,834	4,765
BERC Rate (\$/GJ)	16.60	16.51	16.98	11.94	9.12

Thus, FEI believes that the solution should take advantage of the ability to transfer unsold quantities of biomethane on a regular basis but must also include modifications to the BERC rate methodology that will maximize voluntary participation in the RNG Program and minimize the potential impact on non-RNG customers.

2

3 12.1 How much unsold biomethane is permitted to be transferred to the MCRA under
4 G-210-13?

5

6 **Response:**

7 There is no specified limit as to the amount of RNG supply that may be transferred to the MCRA
8 under G-210-13.

9

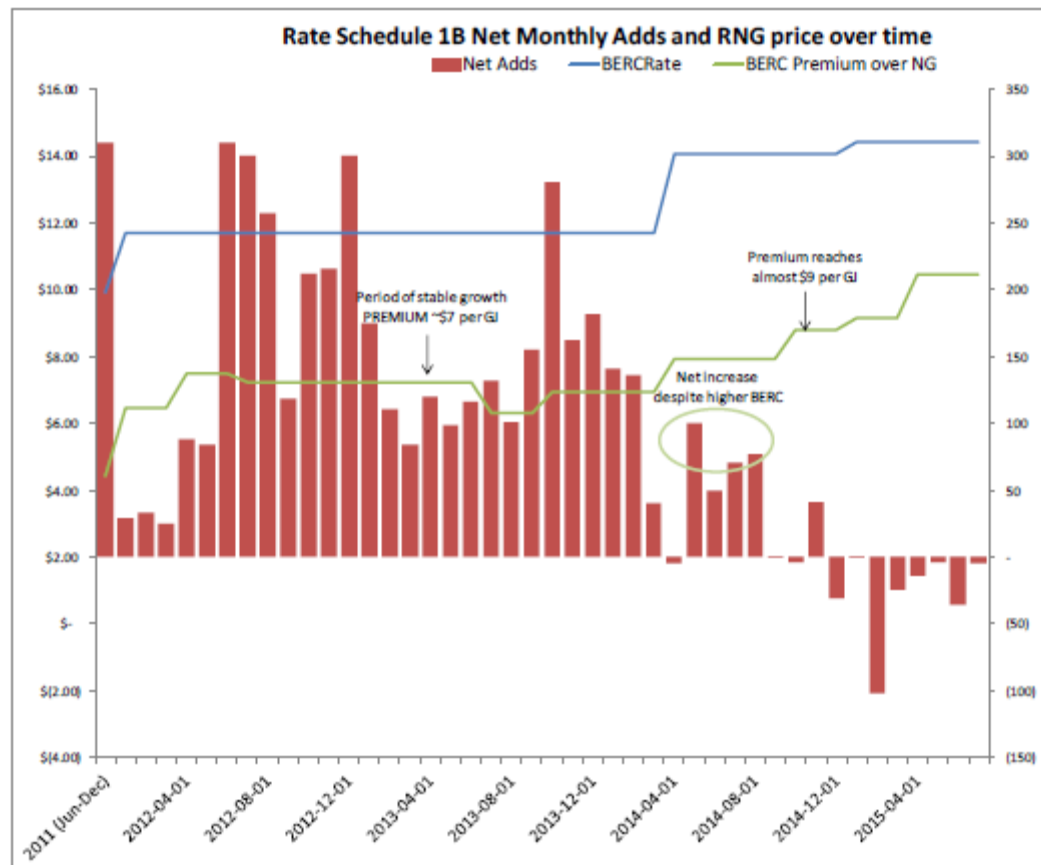
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1 **13. Reference: Exhibit B-1, Pages 15 and 33**

For example, an average residential customer today who consumes 90 GJ of gas annually may designate 10% of his or her use as RNG and pay the associated premium. In this case, the customer will buy 9 GJ of RNG at the current biomethane price of \$14.414 per GJ and 81 GJ of natural gas at the price of \$2.486 per GJ. This customer will also receive a Carbon Tax credit equal to \$1.498 per GJ on the biomethane. Due to the higher commodity rate for RNG, the total yearly premium would then be \$93.94 or \$7.83 per month on average.

It can be observed that FEI had its greatest success in attracting and keeping customers when the premium was \$7.00 per GJ or less. The trend becomes most obvious during the fall of 2014 when premium of RNG in relation to natural gas (including Carbon Tax) increased to almost \$8.79 per GJ. It can also be seen that in that period, the number of RNG Program drops did not increase; rather, the number of additions declined markedly (see Figure 4-2). This leads FEI to conclude that there is a price barrier for new customers when the premium for RNG is too high.

Figure 5-2: Monthly Residential RNG Additions Compared to BERC Rate



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1 13.1 Please confirm that the monthly price premium for an average residential
2 customer at \$7/GJ would be approximately \$5.25 per month, assuming 10%
3 uptake. $((90 \text{ GJ/year} * 0.1) * \$7/\text{GJ})/12 \text{ months/year}$.
4

5 **Response:**

6 Confirmed based on a 10% blend of RNG.
7
8

9
10 13.2 If not confirmed, please provide.
11

12 **Response:**

13 Please refer to the response to CEC IR 1.13.1.
14

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1 **14. Reference: Exhibit B-1, Page 38**

Table 5-3: Summary of Utility Interviews

Company	Green Energy Price per GJ	\$ Premium per GJ (% Premium)	Monthly premium for average house to go 100% green power	% Residential Participation
FortisBC Rate 1 (LML service area) (G)	\$19.30	\$10.43 net of carbon tax credit (262%)	\$72	0.7%
Bullfrog Power - BC (G)	\$10.86	3.48 (87%)	\$29.87	
Wellesley Municipal Light Plant (E) *		\$11.11 (25%)		11.0%
Madison Gas & Electric (E) *		\$6.78	\$20-30	8.0%
Puget Sound Energy (E) *	\$34.72 per GJ or \$4 per block. Average customer needs 2 blocks per month to be 100% green energy	\$3.47	\$10-12	6.3%
Puget Sound Energy (G) *	\$4 per block. Average customer needs 2 blocks per month to be 100% green energy		\$8	0.2%
North West Natural (G) *	\$0.99 per GJ for volumetric program	\$0.99 (10%)	\$5.50	4.0%
North West Natural (G) *	\$5.50 per block. For the average user this equates to 100% green energy			
River Falls Municipal Utilities (E) *	\$3 per block of 1.08GJ	\$2.78	\$5.50	5.8%
Portland General Electric (Green Source) (E) *		\$2.22 (6%)	\$7-10	15% (combined)
Portland General Electric (Clean Wind) (E) *	\$2.50 per block of 0.72 GJ			
WPPI (E) *	\$3 per block of 1.08GJ	\$2.78		
Green Mountain Power (E) *		\$11.11 (29%)	\$20	1.5%
City of Palo Alto (G)		\$1.14	\$5	19.4%
Washington Gas Energy Services (G)		\$1.42		
Pacificorp California (E)		\$5.41		
Pacificorp Oregon (E)		\$2.92		8.9%
City of Naperville -IL (E)	\$5 per block of 0.72GJ	\$6.94	\$20-25	6.2%
Sacramento Municipal Utility District (E)	\$3 (50%) or \$6 (100%) monthly flat fee		\$6	11.7%
Silicon Valley Power (E)		\$4.12	\$7.50	8.1%
National Grid - Ma (E)		\$6.69 to \$10.56		
Lake Mills Light & Water (E)	\$3 per block of 1.08GJ		\$6	
Farmers Electric Cooperative of Kalona (E)	Minimum of \$3 per month			10.4%
Xcel Energy - Co (E)	\$2.16 for a 0.36GJ block	\$6		

2

3

4

14.1 What is the meaning of the asterisk?

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1 **Response:**

2 The asterisk refers to utilities where FEI conducted interviews with program managers.

3

4

5

6 14.2 FortisBC Inc. RNG customers are typically purchasing 10%, resulting in a
7 monthly premium of \$7.20 which is in the range of other company offerings of
8 100%. Does FEI consider that customers are looking primarily at the total bill
9 impact, or are they effectively valuing the 10% benefit against the bill impact and
10 finding it lacking? Please explain.

11

12 **Response:**

13 Please refer to the response to BCUC IR 1.21.1 for clarification of Table 5-3.

14 FEI considers that FEI residential customers are generally considering total bill impact versus
15 the value of a 10% blend in RNG. For instance, as shown in Figure 5-2 in the Application, there
16 is a net increase in customers despite an increase in the BERC rate. Generally, consumption
17 levels are lowest in the summer months, thus a lower monthly bill.

18

19

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1 **15. Reference: Exhibit B-1, Pages 42 and 50**

Table 6-2: Five-Year Average (2016-2020) RNG Program Alternatives Estimated Impacts

	Status Quo ³⁸	Yearly Clearing	Universal "Green Portfolio"	Market-based Rate + Yearly Clearing
Storage & Transport Rate (\$/GJ)	-	\$0.019	\$0.080	\$0.015
Delivery Rate Impact (\$/GJ)	\$0.245	\$0.032	-	\$0.016
BVA Balance (\$Millions) ³⁹	\$43	\$5	-	\$19
Residential Annual Bill Impact (\$) ⁴⁰	\$22	\$5	\$7	\$3

Table 8-1: Summary of Analysis Assumptions

Item	Assumption
Biomethane Demand	Based upon FEI demand model for next 10 years assuming the approved price model. Mass market adoption rates.
Biomethane Cost	Based upon known supply projections with the addition of future potential supply. Future supply costs use expected range of contract prices and volumes based upon existing contracts and the Request for Expression of Interest issued by FEI in 2014.
Market Price for Biomethane	FEI uses the market prices for RNG as proposed in this application. The mass market and long-term fixed prices are based upon natural gas commodity plus two different premiums, (\$8.50 and \$7.50 per GJ respectively).
Natural Gas Commodity	The natural gas commodity price is used to project a mass market price for biomethane. It is based on natural gas commodity market forecasts from DTN Trading and OneExchange Corporation.
Projected Total Supply	Based upon known supply projections with the addition of future potential supply. Future volumes are projected assuming a certain yearly volume addition based upon the number of projects added in a given year.
Projected delivery volume	Based upon Schedule 7, lines 7 (i.e. MCRA impact volumes) and 28 (i.e. Non-RNG Customer impact volumes) of the Compliance Filing to the 2014-2019 PBR Plan – Annual Review of 2015 Rates, Total Sales and Total Non-Bypass Sales & Transportation Service Volume. ⁴⁴

2

3 15.1 Please include the percentage rate impacts in the above table.

4

5 **Response:**

6 Please note that an updated version of Table 6-2 was provided in Exhibit B-1-1 Evidentiary
7 Update to the Application.⁹

8 Please refer to an updated version of Table 6-2 below, which includes the percentage rate
9 impacts.

⁹ Exhibit B-1-1: Evidentiary Update to the Application, Table 6-2, page 42.

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Table 6-2: Five-Year Average (2016-2020) RNG Program Alternatives Estimated Impacts

	Status Quo ¹	Yearly Clearing	Universal “Green Portfolio”	Market-based Rate + Yearly Clearing
Storage & Transport Rate (%)	-	1.32%	5.61%	1.08%
Delivery Rate Impact (%)	5.71%	0.73%	-	0.34%
BVA Balance (\$Millions)²	\$43	\$5	-	\$19
Residential Annual Bill Impact (%)³	2.71%	0.55%	0.88%	0.33%

Notes:

Rate impacts are based FEI Mainland Rate 1 Storage and Transport and Delivery rates per gigajoule effective January 1, 2015.

¹ Forecast impact in 2021 of full balance of BVA recovered through delivery rates. This recovery would likely not occur over one year, but spread out over multiple years.

² Forecast balance as at December 31, 2020.

³ Approximate annual bill impacts based on 5 year average per GJ impact and FEI Mainland Rate 1 rates effective January 1, 2015 for a customer consuming 90 GJs per year.

15.2 Please provide a detailed overview of the analysis supporting the \$22, \$5, \$7 and \$3 annual impacts with quantification.

Response:

Please note that an updated version of Table 6-2 was provided in Exhibit B-1-1 Evidentiary Update to the Application, however the Residential Annual Bill Impacts did not change.¹⁰

Please refer to the live Excel spreadsheet included in Attachment 15.2 which provides a detailed overview of the Residential Annual Bill Impacts represented in Table 6-2 of the Application.

¹⁰ Exhibit B-1-1: Evidentiary Update to the Application, Table 6-2, page 42.

A third option would be to transfer all costs and all RNG into FEI's existing natural gas supply portfolio. Conceptually, this would have the effect of reducing the carbon emissions of the entire portfolio while spreading the extra costs associated with RNG to all sales customers. While this option would address the current challenges faced by the RNG Program, this would require a radical restructuring of the RNG Program.

A significant challenge with this approach would be the elimination of the option for voluntary customers to take advantage of the GHG benefits for their operations. The ability to purchase RNG for use in existing natural gas equipment (notionally) while receiving recognition that GHGs are reduced is required for certain customers. The use of RNG allows these customers to reduce their emissions without changing their gas equipment.

Furthermore, this option is not aligned with the Commission's 2013 Biomethane Decision. Notably, it would not seek to maximize voluntary participation or minimize rate impacts to non-RNG customers. In short, this option would involve a complete revisiting of the RNG Program from a regulatory perspective. The rate impact of this option would be an average of approximately \$9.9 million recovered each year through the MCRA rates applicable to all sales customers or approximately an average of \$0.080 per GJ over the five year period.

16.1 Assuming 75% development of supply, what would be the proportion of RNG that would be included in the existing natural gas supply under this option?

Assuming 75% development of supply, and assuming that no supply would be directly purchased by customers via existing RNG rate schedules, if all costs and all RNG were transferred into FEI's existing natural gas supply portfolio, the rate impact would be an average of \$7.9 million recovered each year through the MCRA rates, or approximately an average of \$0.064 per GJ¹¹ over the five year period 2016-2020.¹²

The analysis provided in the Application and in this IR response excludes any cost savings in the MCRA related to the quantity of natural gas displaced by the RNG and for potential carbon tax savings.

¹¹ Forecast closing December 31, 2020 BVA balance of \$39.7 million / 5 years / Non-Bypass throughput of 124.018 TJ.

¹² For the purpose of this IR, the expected lower O&M costs due to the reduced RNG supply has not been included.

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1 **17. Reference: Exhibit B-1, Pages 44 and 45**

This option gives RNG customers the ability to achieve GHG reductions while at the same time minimizes impact to the natural gas delivery and commodity rates. Through this approach, FEI expects to recover most RNG Program costs from RNG customers. Along with a lower BERC rate, FEI expects higher demand, which will reduce unsold RNG inventory. These two factors together will reduce the potential rate impacts to non-RNG customers as compared to the other alternatives discussed above and as shown in Table 6-2 above.

FEI is proposing a market-based BERC rate based on a RNG premium of \$7.00 per GJ, which FEI expects will have a greater likelihood of growing demand from voluntary customers. At today's BERC rate, this would mean a decrease in the price that RNG customers will pay. Although this option would result in the recovery of some costs from non-RNG customers, the impact on non-RNG customers will be reduced when compared to the potential impact resulting from reduced or no sales to voluntary customers as demonstrated in Table 6-2 above. The proposed BERC rate will recover a large portion of the costs from voluntary RNG customers while remaining consistent with the principle of the universal benefits of the RNG Program being partially paid for by a broader base of FEI customers and will help maintain an abundant supply of RNG in BC.

2
3 17.1 What proportion of RNG program costs does FEI expect to recover from RNG
4 customers under its market based proposal?

5
6 **Response:**

7 FEI expects to recover approximately 70% of costs from RNG customers under its market
8 based proposal as shown in the table below. Please note that FEI has prorated the cost of
9 service based on the GJ sold to account for the notional unsold inventory that is available for
10 sale.

Line	Particular	2016	2017	2018	2019	2020	Total	Reference
1	Forecast Cost of Service	4,943	8,545	14,435	17,238	19,624	64,786	Appendix E, Schedule 4, line 7
2	Forecast Quantity (GJs)	317,197	597,845	879,185	1,010,105	1,132,670	3,937,002	Appendix E, Schedule 4, line 8
3	Prorated Cost of Service based on GJs sold	2,693	2,807	3,482	3,865	4,177	17,025	Line 6 / Line 2 X Line 1
4								
5	Forecast Net Recoveries from RNG Customers	1,880	2,166	2,371	2,575	2,784	11,776	Appendix E, Schedule 2, line 27
6	Forecast Demand (GJ)	172,806	196,410	212,054	226,499	241,090	1,048,859	Appendix E, Schedule 2, line 26
7								
8	Recoveries as % of Cost to be Recovered	70%	77%	68%	67%	67%	69%	Line 5 / Line 3

11
12
13
14
15 17.2 Has FEI conducted any sensitivity analysis with respect to lower or higher rates?
16

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1 **Response:**

2 Please refer to the responses to BCUC IRs 1.35.1 and 1.35.2 as well the responses to BCUC
3 IRs 1.23.1 and 1.23.2.

4

5

6

7 17.2.1 If so, please provide.

8

9 **Response:**

10 Please refer to the response to CEC IR 1.17.2.

11

12

13

14 17.2.2 If not, please explain why not.

15

16 **Response:**

17 Please refer to the response to CEC IR 1.17.2.

18

19

20

21 17.3 Please provide FEI's assumptions with respect to the increase in demand that is
22 likely to be experienced with a rate of \$7 per GJ.

23

24 **Response:**

25 Please refer to the response to BCUC IR 1.33.1.

26

27

28

29 17.4 With which services does the FEI biomethane service compete? Please list.

30

FortisBC Energy Inc. (FEI or the Company) Application for Approval of Biomethane Energy Recovery Charge (BERC) Rate Methodology (the Application)	Submission Date: November 6, 2015
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Response:

When considering direct alternatives for renewable natural gas usage, FEI biomethane service could be competing with the offerings from the following:

- Bullfrog Power (as FEI understands them);
- Carbon Offset instruments purchased in the local or international market; and
- Gas Marketer 'Green' commodity fixed rate offers – RNG is not available to residential customers participating in Customer Choice. Therefore, in this case, FEI assumes that a residential customer may choose to both take advantage of the Customer Choice program and also take advantage of a particular gas marketer green offering.

10
11

12
13 17.5 Please provide a price comparison of other services in the BC market.

Response:

Please refer to the response to CEC IR 1.17.4 for a discussion of competing services. A summary of the price comparison of these competing services in BC is provided below. For more details related to the price of "Green" services related to renewable natural gas use, please refer to Section 5.3 on page 40 of the Application.

Service in BC	Premium Price/GJ (\$)
FEI Biomethane (RNG)	\$10.43
Bullfrog Power	\$3.48
Carbon Offsets	\$1.25
Access Gas Services Inc. (Marketer)	\$1.00*
Summit Energy BC LP (Marketer)	\$1.00*

*Offers subject to change, listed as of November 3, 2015

20
21

FortisBC Energy Inc. (FEI or the Company) Application for Approval of Biomethane Energy Recovery Charge (BERC) Rate Methodology (the Application)	Submission Date: November 6, 2015
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1 **18. Reference: Exhibit B-1, Page 46**

2 Larger commercial and industrial customers who commit to a minimum volume of 500 GJ per
3 month for 10 years or more (or volume equivalent based on combination of volume and years)
4 would be eligible for the Long Term Contract rate. FEI is proposing a \$1.00 discount from the
5 Short-Term contract rate because of the relative benefits for FEI and its non-RNG customers.

2

3 18.1 On what basis did FEI select a \$1 discount? Please provide any evidence that
4 FEI relied upon that is not included in the application or direct where it may be
5 found.

6

7 **Response:**

8 Long-term demand commitments are important to the success of the RNG Program in that they
9 provide stability and growth. However, in order for a customer to give a long-term and fixed
10 volume RNG commitment, the customer in turn would seek stability of supply and price and
11 recognition of their long-term commitment. FEI believes the proposed discount takes both
12 aspects into consideration.

13 Further, as discussed in the response to BCSEA IR 1.4.6.1, there is value to program
14 management, customer awareness and education, as well as contract negotiations, of having
15 the Long Term Contract BERC rate linked to the Short Term BERC rate.

16 Although there is no additional empirical evidence that supports the \$1 per GJ discount, FEI
17 considered this a reasonable discount as it recognizes the above mentioned benefits. FEI also
18 notes that a \$1 discount also puts the proposed price in the economic range indicated by UBC
19 and by CanGaz.

20 Please refer to the response to BCUC IR 1.24.1 for a discussion on the determination of the
21 \$7.00 per GJ proposed premium for Short Term Contract customers.

22

23

24

25 18.2 Why did FEI select 500 GJ * 10 years or volume equivalent as the threshold for
26 the Long Term Contract Rate? Please explain.

27

28 **Response:**

29 For clarification, the volume is 500 GJ per month x 12 months x 10 years.

30 FEI has proposed a threshold that is easy to calculate and communicate and at a level to
31 encourage qualifying customers to consider a Long Term Contract. For example, at this level,

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- 1 two of FEI's existing higher volume customers would be included and FEI believes that it will be
- 2 an acceptable threshold for prospective customers.

3

FortisBC Energy Inc. (FEI or the Company) Application for Approval of Biomethane Energy Recovery Charge (BERC) Rate Methodology (the Application)	Submission Date: November 6, 2015
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1 **19. Reference: Exhibit B-1, Page 48**

2 With respect to the vintage of the RNG inventory, there is not a defined protocol within Canada.
3 However, in the US, Renewable Identification Numbers (RINs), normally expire after two years.
4 Therefore, at this time, FEI believes it is prudent to conceptually align with this generally
5 accepted industry practice. In order to account for a reasonable period of time in advance of a
6 two-year vintage, FEI proposes to transfer inventory that is older than 18 months.

7 19.1 Please explain why the US Renewable Identification Numbers (RIN) are a
8 relevant benchmark to FEI's notional inventory.

9 **Response:**

10 The RIN system is a reasonable comparator for FEI due to the rigor used to develop the RIN
11 system and the fact that it considers renewable natural gas specifically.

12 The RIN system is widely adopted within the United States to support the Renewable Fuel
13 Standard mandate and represent a means to track and ensure compliance of biofuels moving
14 through the US distribution system.¹³ As a system has yet to be implemented in Canada, FEI
15 believe it is reasonable to follow generally accepted practices in industry.

16 19.2 Did FEI consider any other terms? If so, please discuss and explain why they
17 were not accepted.

18 **Response:**

19 No. FEI is not aware of any other reasonable practices with regard to the vintage of renewable
20 energy or its attributes.

21 19.3 Please explain the value of having a six month period of time in advance of the
22 two year vintage.

23
24
25
26
27

¹³ The Renewable Identification Number System and U.S. Biofuel Mandates / BIO-03, Economic
Research Service/USDA, page 5, <http://www.ers.usda.gov/media/138383/bio03.pdf>.

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1 **Response:**

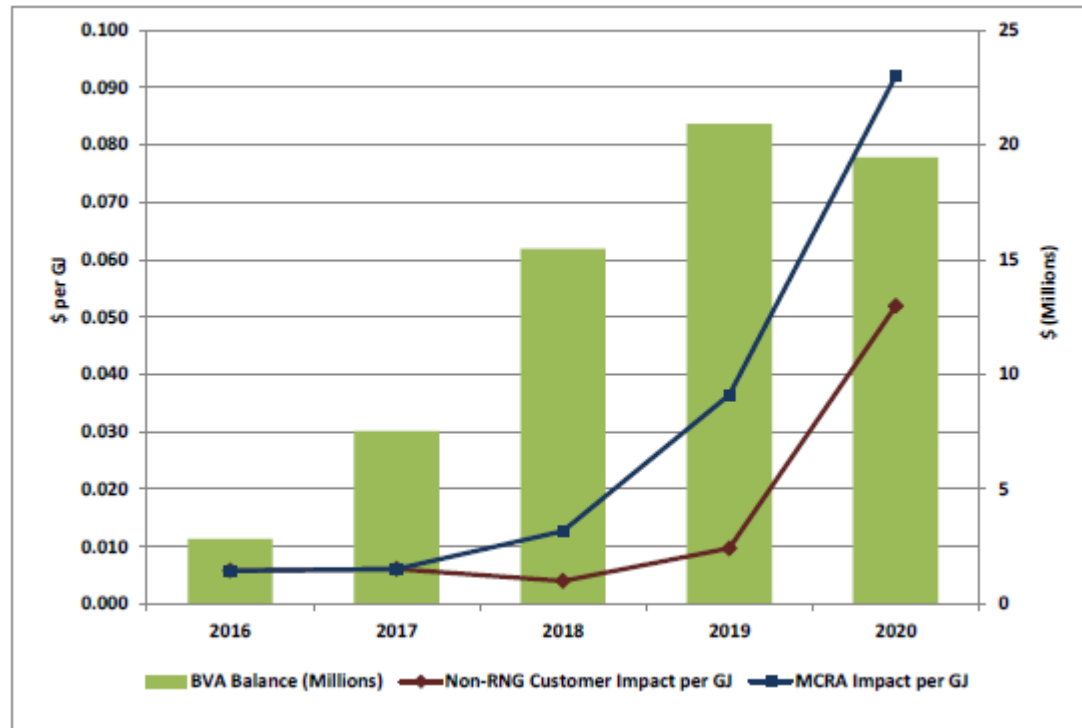
2 FEI regards 18 months as a point beyond which it is unlikely that it could sell RNG off-system or
3 somehow create value with the RNG before a two-year expiry. Prior to 18 months, FEI would
4 still have the option of pursuing some means of realizing value from the inventory that may be
5 greater than the value if FEI simply transfers the inventory.

6

FortisBC Energy Inc. (FEI or the Company) Application for Approval of Biomethane Energy Recovery Charge (BERC) Rate Methodology (the Application)	Submission Date: November 6, 2015
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1 **20. Reference: Exhibit B-1, Page 52**

Figure 8-3: Summary of Market-Based Rate + Yearly Clearing Impacts to the BVA, MCRA and Non-RNG Customers⁴⁶



2

3 20.1 Please explain the decline in the Non-RNG Customer Impact per GJ from 2017
4 to 2018.

5

6 **Response:**

7 The Non-RNG customer impact will vary from year to year depending on the forecast RNG
8 demand, the amount of supply quantity that remains in the BVA and whether or not a transfer of
9 inventory has resulted in a recovery of the difference between the prevailing CCRA rate and the
10 embedded cost of RNG supply.

11 With respect to 2017 and 2018, the forecast recoveries from demand and valuation of the
12 ending inventory result in a forecast net benefit transfer to delivery rates in 2017; however, in
13 2018, an inventory transfer is forecast to occur, and coupled with an increase in the valuation of
14 the ending inventory due to additional supply, a net transfer of costs to delivery rates is forecast
15 to occur in 2018. The following table provides a comparison of 2017 and 2018, based on the
16 revised financial analysis provided in the response to BCUC IR 1.31.1:

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Particulars	2017	2018
BVA - Opening	\$ 2,821	\$ 7,511
Additions	6,179	10,891
BERC Recoveries	(1,603)	(1,755)
W/O aged inventory	\$ -	\$ (1,073)
BVA Ending (pre transfer adjustments)	<u>\$ 7,397</u>	<u>\$ 15,574</u>

Notional gas Balance - ending (pre transfers) \$ 7,511 \$ 15,467

Transfer all cost except supply ending balance \$ 114 \$ (107)

Similarly, the impacts for both Non-RNG customers and MCRA increase beyond 2018 primarily due to the forecast transfer of inventory greater than 18 months that is expected to occur and the growing notional gas balance that results from overall growth in RNG supply that is not offset by RNG demand.

20.2 Please explain the increasing difference in the Non-RNG customer impact per GJ and the MCRA impact per GJ.

Response:

Please refer to the response to CEC IR 1.20.1.

FortisBC RNG Customer Analysis

EXECUTIVE SUMMARY

This document summarizes findings from the Canada Post benchmarking analysis and makes suggestions for applying the results towards driving overall participation in the RNG program. See also the attached report “Customer Profile Analysis”.

CUSTOMER PROFILE - FORTISBC RNG SUBSCRIBERS

SOCIO-DEMOGRAPHIC SNAPSHOT

- 50 + years old, with kids (teens or older)
- Married
- Newer construction (2001 – 2006)
- Detached or semi-detached homes
- Suburban & Small Town

CUSTOMER PROFILE

The typical RNG household comprises of a middle-class family that is socially conscious and trying to do their part to make a difference in their community.

They are English speaking 2nd and 3rd generation Canadians from a primarily European background. They live in suburban areas and smaller towns – areas like Surrey, Langley, Abbotsford, Nanaimo, and Prince George.

With a household income over \$80k, these are traditional families with a blue-collar background (ie. trades people and skilled labour). Though not university educated, these mature boomers are likely working in senior roles and have been with their company for a long time.

MESSAGING & STRATEGY

Do...

- Use plain language
- Highlight community and family values
- Target detached / semi-detached homes in suburban, family friendly neighbourhoods
- Speak to the socially conscious family
- Highlight benefit to future generations
- Use specific examples from the local community

Avoid...

- Condos and strata
- Urban downtown
- Singles and young couples
- Overcomplicated, technical language
- Overtly urban or corporate tone

KEY TAKEAWAY

You're talking to established middle-class families with a social conscious. Tell them how this program will benefit their immediate community or neighbourhood and highlight local projects and initiatives.

IF YOU HAVE ANY QUESTIONS REGARDING THIS REPORT, PLEASE CONTACT:

JAMES HVEZDA

Marketing & Communications Manager | D: 604-333-5551 | E: jamesh@kirkmarketing.com

Customer Profile



Data & Targeting Solutions

Customer Profile Analysis

Input File: KIRK MARKETING - Customer File (RNG Customer Lists for KIRK July 29 2013.xlsx)

Prepared for: KIRK MARKETING

Comparison Market: Province of British Columbia

INSIGHTS

MOVER INFORMATION

Did you know that more than 1.2 million Canadians move every year and that those movers represent a very large revenue opportunity (\$11 BILLION!!!)? Learn more about Canada Post's mover solutions at www.canadapost.ca/lists.

E-COMMERCE INDEX

Did you know that e-commerce business is growing? Understanding what people purchase online can be a great indicator of their needs and wants or their access to major retail stores. To learn more about Canada Post's e-commerce solutions, please contact the Analytics Essential team at ae@canadapost.ca

CLEAN DATA

Did you know that, on average, 11.5% of a mailing file is inaccurate as it could be missing information or because customers have moved? This will negatively impact your bottom line and reduce your ROI. Learn more about Canada Post's data cleansing solutions at www.canadapost.ca/smartdata

Thank you for taking advantage of Canada Post's Data & Targeting Solutions. The following report provides a detailed analysis of your customer's characteristics.



The information provided in this report will help you understand your customers and enable more effective targeting by communicating with the best ones with the appropriate communication method and relevant message.

Armed with this information, you can adjust your campaigns to continually increase your response rate and ROI to maximize your marketing dollars.

This report consist of various sections based on the options you selected with the following sections included as part of the basic analysis:

- **Demographic analysis**

Additionally, the following sections are available for an additional fee:

- **Customer distribution map**
- **Expenditure analysis**
- **Market segment analysis (PRIZM)**
- **Trade Area characteristics**



Demographic Analysis

Understanding your customers enables improved targeting and higher ROI in future campaigns

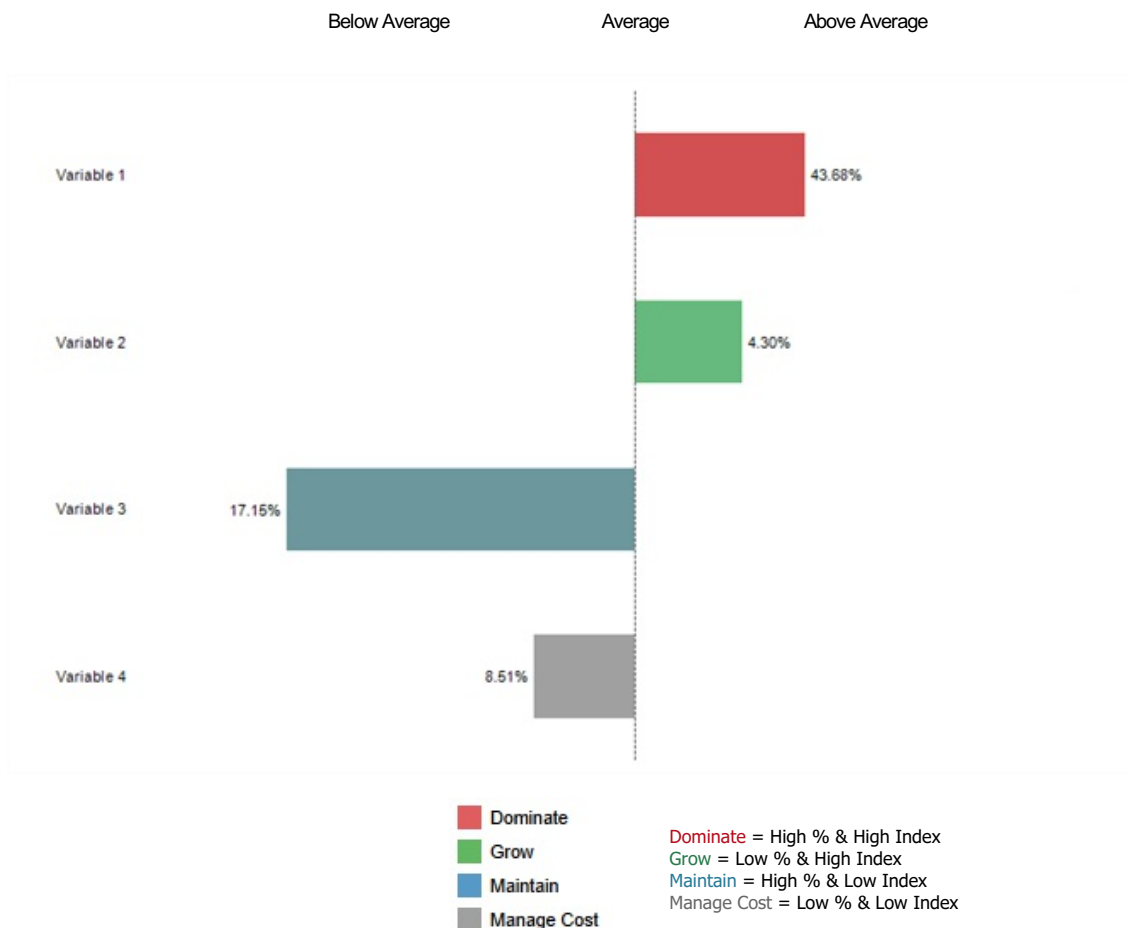


How to read the charts

This report provides a visual representation of the demographic characteristics of your customers. The characteristics are identified by looking at neighbourhoods where your customers live and how they compare with your base market (benchmark).

For example, if your customers live in specific neighborhoods within a city, comparing those neighborhoods to the larger metropolitan area (or province) would provide a realistic benchmark for comparison.

The information is displayed in bar charts and identifies whether your customers are "Below Average", "Average", or "Above Average" of the comparison market along with the percentage of your customers within each category; see example below to understand how to interpret the charts. This information is calculated by looking at the Index generated when comparing the customer distribution to the comparison market.



By looking at the demographic characteristics where there is an "Above Average" presence, it is easy to identify the various characteristics that describe your customers. This will help you in refine your targeting by focusing on neighbourhoods with higher presence of the key characteristics that make up your best customers.



Demographic Analysis

Understanding your customers enables improved targeting and higher ROI in future campaigns



Lifestage

The **Lifestage** section provides an overview of where your customers are in terms of age and family structure



Demographic Analysis

Understanding your customers enables improved targeting and higher ROI in future campaigns



Lifestage

The **Lifestage** section provides an overview of where your customers are in terms of age and family structure



Demographic Analysis

Understanding your customers enables improved targeting and higher ROI in future campaigns



Socio-Economic

The **Socio-Economic** section provides an overview of your responders' education and occupation.



Demographic Analysis

Understanding your customers enables improved targeting and higher ROI in future campaigns



Language & Ethnicity

The **Language & Ethnicity** section provides an overview of the ethnic diversity of your responders



FORTISBC ENERGY INC.**BIOMETHANE POST IMPLEMENTATION REPORT AND APPLICATION
FOR APPROVAL OF THE BIOMETHANE PROGRAM ON A PERMANENT BASIS****3.2 Customer Segmentation and Targeting**

RNG customers are segmented into two broad categories, the same as non-RNG customers – Residential and Commercial. Commercial customers are further segmented into small and large customers. FEI offers a blend of 10% Biomethane and 90% conventional natural gas to both residential and commercial customers. The residential and commercial customer market can be characterized in terms of their motivations and demographics, as discussed below.

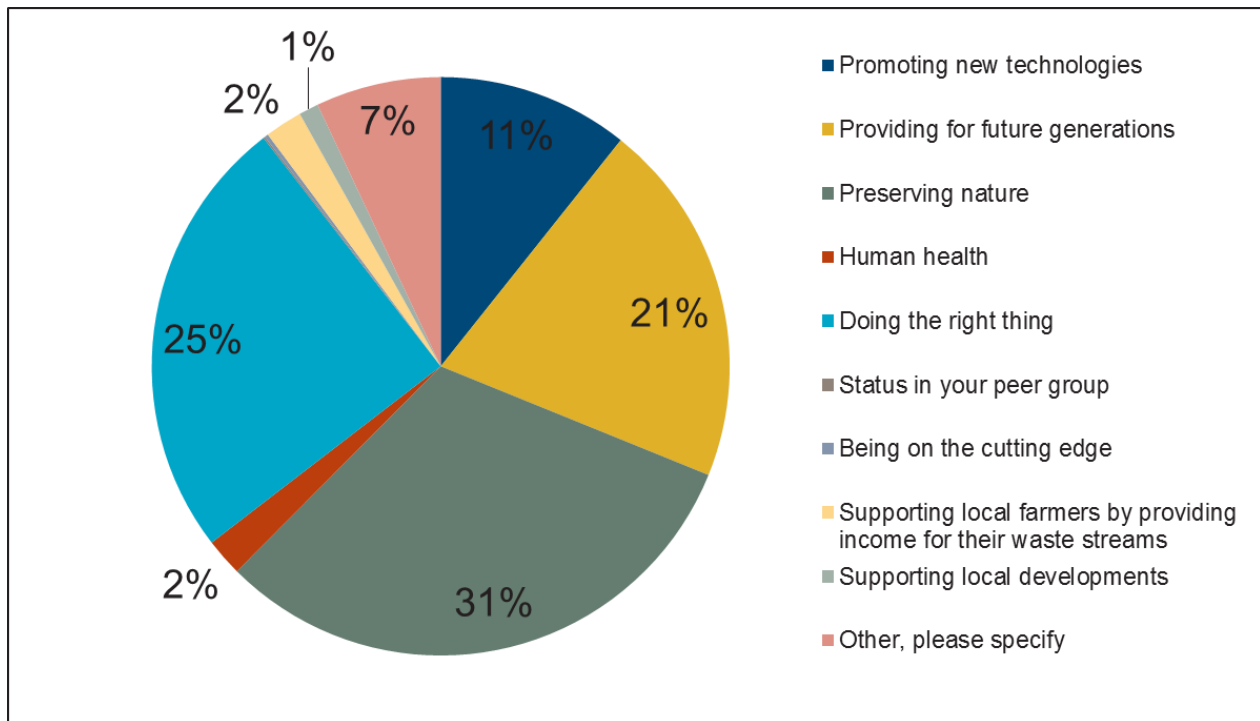
3.2.1 RESIDENTIAL CUSTOMERS

The RNG Offering is targeted at residential Rate Schedule 1 customers (single family or separately metered multi-family). Customers choosing RNG are served under Rate Schedule 1B.

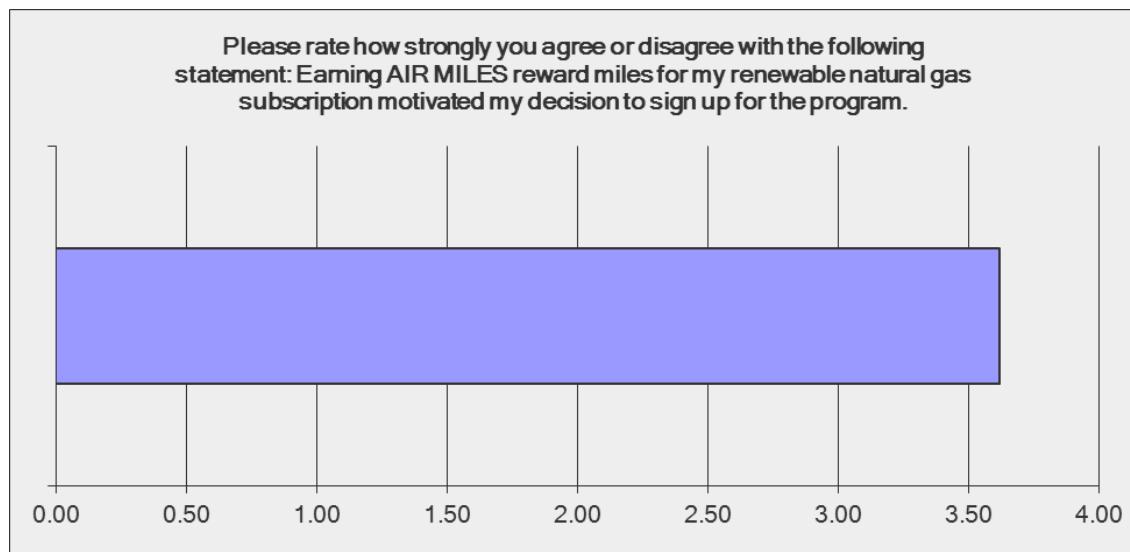
3.2.1.1 Residential Customers - Motivations

FEI's market research has indicated that the primary residential target customers are those who not only act in the interest of the environment, but also tend to be among the first to use new products and services to better the environment. They routinely act on their concern about their environmental footprint in everything they do and buy. They are concerned about the current and future state of the planet, have taken steps to save energy in the past and do not necessarily make decisions based on economics. FEI conducted an online survey in October 2012 of existing residential RNG subscribers. FEI received 856 responses which represents a margin of error of +/- 2.76% at the 95% confidence level²⁸. The survey, as attached in Appendix E-1, showed that the primary motivations for customers subscribing to the RNG Offering were preserving the environment, providing for future generations and doing the right thing.

²⁸ Margin of error for the study is a guide because the sample is not a randomly selected sample,

FORTISBC ENERGY INC.**BIOMETHANE POST IMPLEMENTATION REPORT AND APPLICATION
FOR APPROVAL OF THE BIOMETHANE PROGRAM ON A PERMANENT BASIS****Figure 3-1: FEI Oct 2012 Survey - Existing Subscribers Primary Motivation**

There is also a large secondary target market of residential customers. The customers in this market consider themselves to be environmentally-minded and have taken steps to conserve energy, reduce their costs and generally participate in well-established programs such as recycling that do not increase their costs. They also aspire to be more environmentally conscious in their actions and choices. These customers are price sensitive and therefore tend to require additional tangible benefits to participate in the program. This secondary market accounts for a large portion of FEI's current participants. Over seventy percent (a ranking of 3.65 out of 5) of those surveyed indicated that FEI thanking customers with AIR MILES reward miles was a motivation for them to sign up for RNG.

FORTISBC ENERGY INC.**BIOMETHANE POST IMPLEMENTATION REPORT AND APPLICATION
FOR APPROVAL OF THE BIOMETHANE PROGRAM ON A PERMANENT BASIS****Figure 3-2: FEI 2012 Survey AIR MILES motivation****3.2.1.2 Residential Customers - Demographics**

The majority of participants are over the age of 50, with 90% of participants over the age of 35. The majority of participants reside in a single detached home and almost 2/3rds of participants are located in the Lower Mainland. Twenty-seven percent of overall enrolments are located in the Interior, indicating strong participation in that region given the relatively smaller number of customers there compared to the Lower Mainland. FEI's original demographics target market showed the greatest participation between the age of 35-55; results to date show that the largest demographic is actually 45-65+, with the single largest segment in the 65+ category. Therefore, the market is slightly older than what was reflected in the original market research.

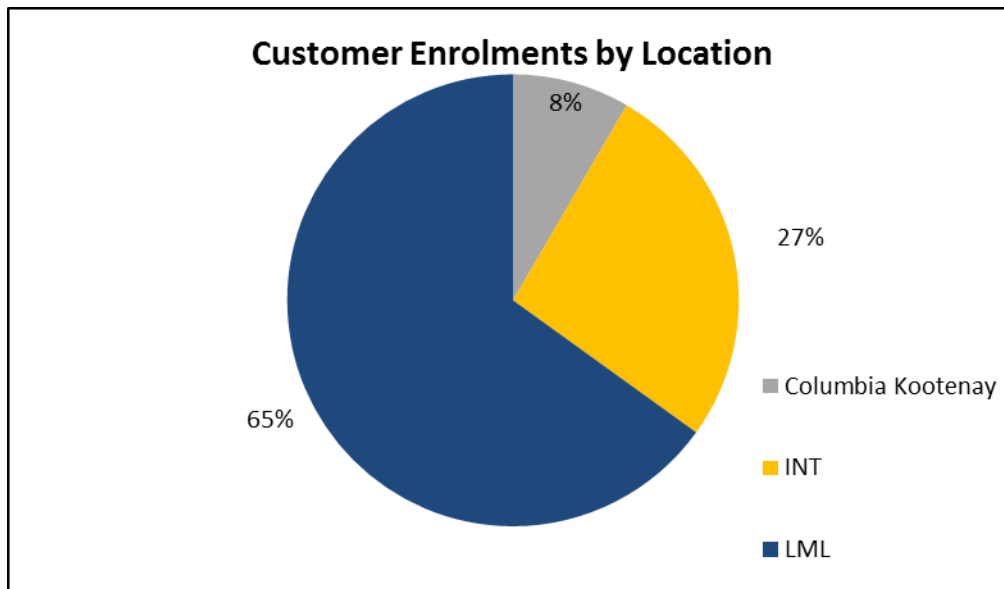
Figure 3-3: Demographics of Existing Subscribers

Age	
18-24	0.60%
25-34	8.80%
35-44	17.20%
45-54	20.60%
55-64	24.20%
65 years or more	28.70%

Residence	
Single detached home	77.10%
Apartment building/condo	3.00%
Row house/Townhouse	12.00%

FORTISBC ENERGY INC.**BIOMETHANE POST IMPLEMENTATION REPORT AND APPLICATION
FOR APPROVAL OF THE BIOMETHANE PROGRAM ON A PERMANENT BASIS**

Residence	
Duplex/Triplex	4.70%
Mobile or manufactured home	3.20%



Customer participation is likely higher in single family dwelling homes because this is where natural gas service has the highest market share. FEI has low capture rates in multi-family homes and this is reflected by low participation in the program by the multi-family dwellers that are mainly in the younger age group.

3.2.2 COMMERCIAL CUSTOMERS

FEI's primary commercial target segments are Rate Schedule 2 (small commercial) and 3 (large commercial) customers. These customers can primarily be divided into the following categories: apartment/condos, commercial/office buildings, education, restaurant, wholesale/retailers and other (includes transportation, recreation, hotels, printing, and construction). Within these categories, FEI specifically targeted the following types of businesses:

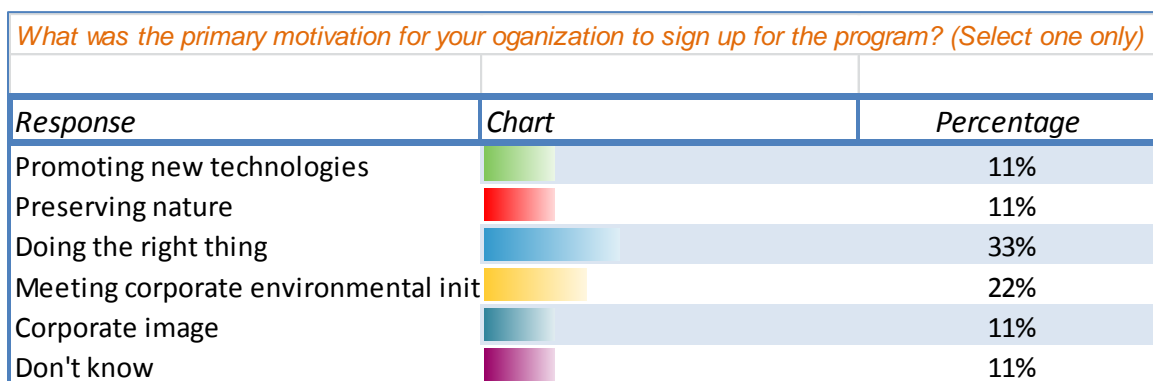
- environmentally-minded businesses that have well-defined environmental policies;
- organizations that have environmentally minded customers and see green initiatives as a way to differentiate their offerings and increase customer loyalty;
- organizations that are looking for ways to complement their current sustainability initiatives; and
- consumer-facing businesses, such as food & restaurant, hotels and service providers.

FORTISBC ENERGY INC.**BIOMETHANE POST IMPLEMENTATION REPORT AND APPLICATION
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An emerging secondary market is public sector organizations (PSOs). PSOs are currently mandated to be carbon neutral through government policy²⁹ and view Biomethane as an alternative to buying offsets in order to reach their carbon neutrality goals. Other PSOs are developing co-generation projects using Biomethane to meet BC Hydro's clean energy criteria³⁰ for the Standing Offer Program or Load Displacement Agreements.

3.2.2.1 Commercial Customers – Motivation

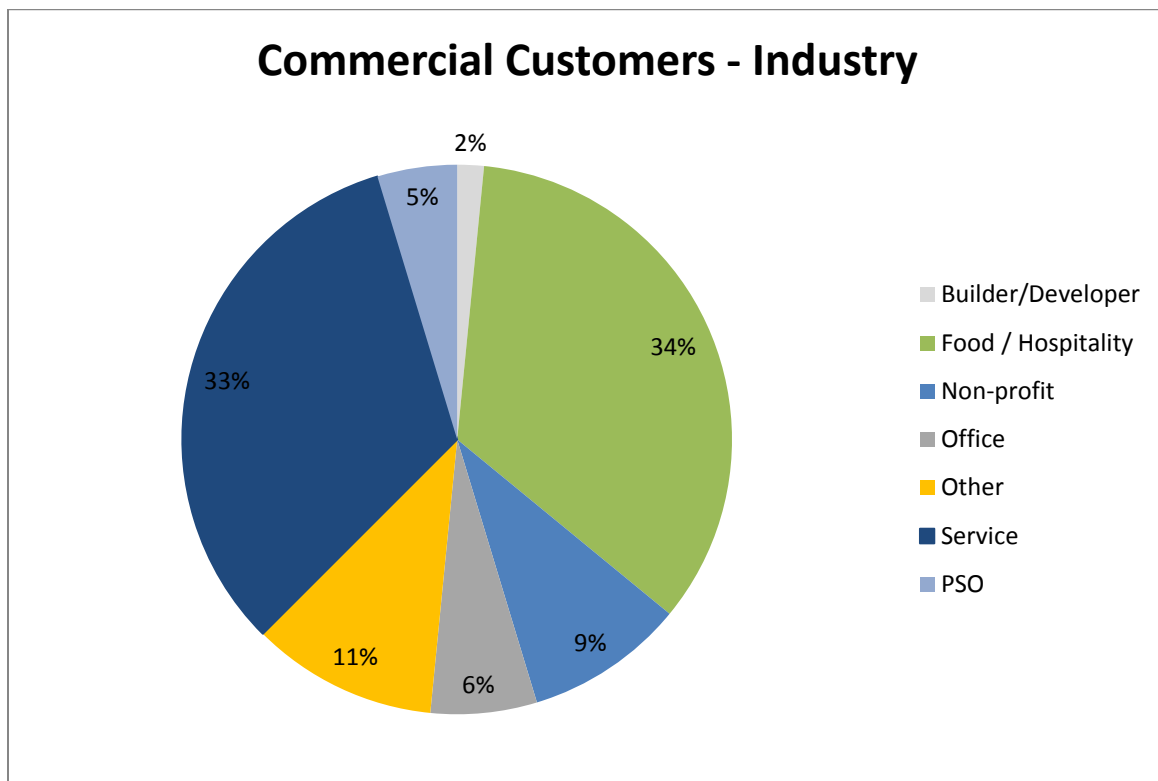
As indicated in FEI's survey of current commercial customers (Appendix E-2), the primary motivation for businesses participating in the Program that responded to the survey was "Doing the right thing" followed by "Meeting corporate environmental initiatives". Since the commercial survey had a low response rate (9 responses out of 50, representing 18% of commercial accounts at the time), it may not be an true indicator of the primary motivation for businesses and should be treated as qualitative research. This is applicable for both the motivation question and blend question addressed in Section 8.3.1.

Figure 3-4: Primary Motivation for Businesses "Doing the Right Thing"**3.2.2.2 Commercial Customers - Firmographics**

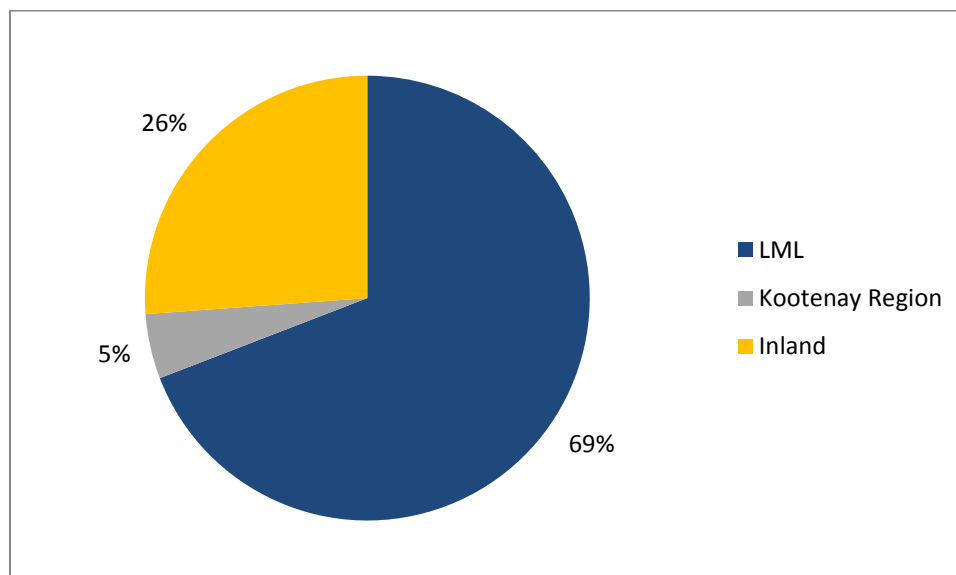
The majority of commercial participants are small commercial customers that come from either the Food/Hospitality industry or the Service industry. (See Figures 3-5 and 3-6 below). However, there is a broad range of other organizations that have participated in the RNG Offering as well, where the common thread is doing the right thing for the environment.

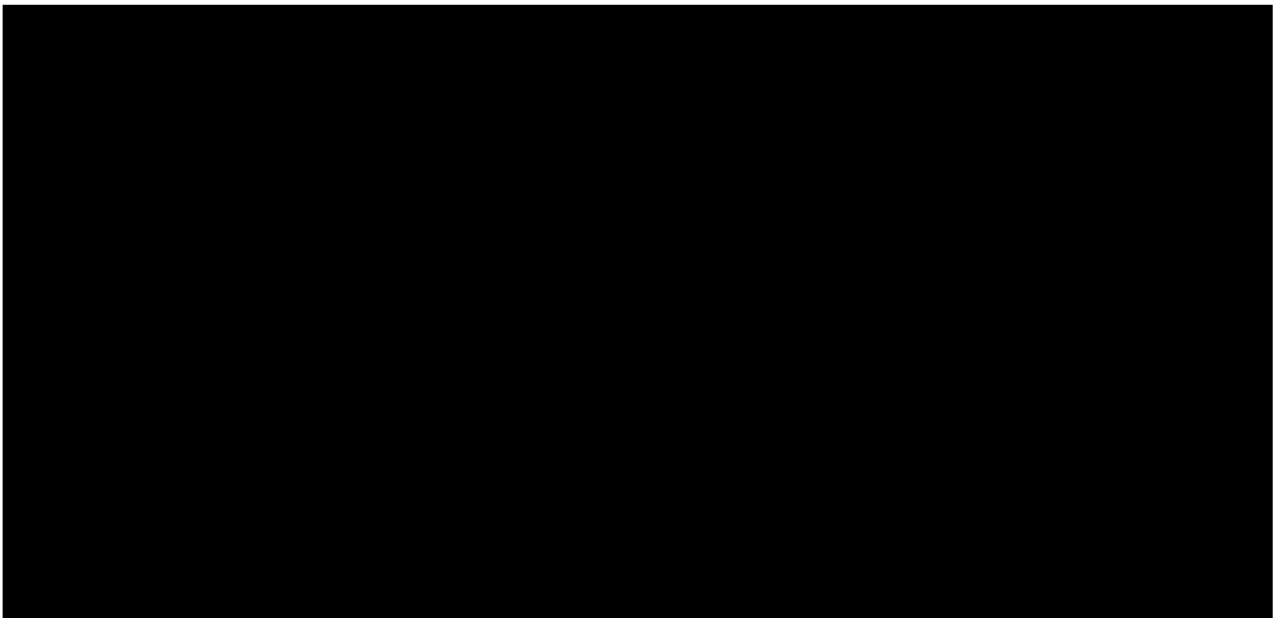
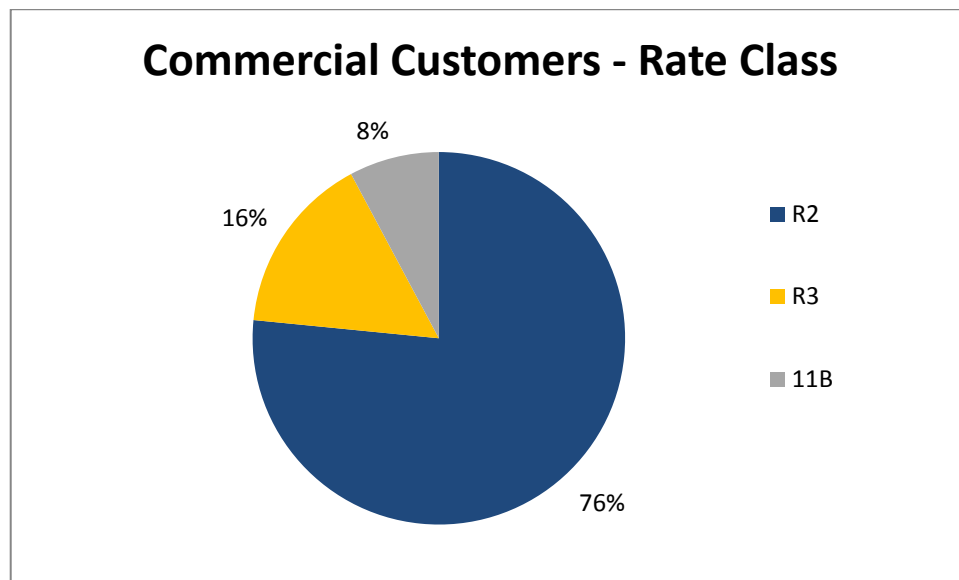
²⁹ Greenhouse Gas Reduction Targets Act – Carbon Neutral Government Regulation. B.C. Reg. 392/2008

³⁰ BC Hydro Standing Offer Program, Program Rules Version 2.1. Section 2.2 Eligible Energy

FORTISBC ENERGY INC.**BIOMETHANE POST IMPLEMENTATION REPORT AND APPLICATION
FOR APPROVAL OF THE BIOMETHANE PROGRAM ON A PERMANENT BASIS****Figure 3-5: Types of Businesses**

As with the residential market, the majority of the participants are located in the Lower Mainland.

Figure 3-6: Location of Businesses

FORTISBC ENERGY INC.**BIOMETHANE POST IMPLEMENTATION REPORT AND APPLICATION
FOR APPROVAL OF THE BIOMETHANE PROGRAM ON A PERMANENT BASIS****Figure 3-7: The majority of Commercial Customers are from Rate Schedule 2**



Ministry of Finance

Tax Bulletin



ISSUED: June 2014

Bulletin CT 001

gov.bc.ca/consumertaxes

Natural Gas and Biomethane Sellers

Carbon Tax Act

This bulletin explains for natural gas and biomethane sellers their obligation to charge, collect and remit carbon tax. Sellers of natural gas and biomethane are not required to collect motor fuel taxes on their sales.

Other fuel sellers should read [Bulletin MFT-CT 001](#), *Fuel Sellers*.

This bulletin does not apply to sellers of natural gas and biomethane who may be required to collect provincial sales tax (PST) and the Innovative Clean Energy (ICE) Fund tax. For information, see [Bulletin PST 203](#), *Energy, Energy Conservation and the ICE Fund Tax*.

Persons that use, flare or incinerate natural gas they import into BC or extract from the ground, are responsible for self-assessing any motor fuel or carbon tax due and should read [Bulletin MFT-CT 006](#), *Self-Assessing Motor Fuel and Carbon Tax*.

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Overview

Carbon tax is a broad based tax that applies to the purchase or use of fuels, such as gasoline, diesel, heating oil, natural gas, propane and coal, and the use of combustibles, such as peat and tires, when used to produce heat or energy.

For a complete list of the fuels and combustibles subject to carbon tax, and their tax rates, see [Bulletin MFT-CT 005](#), *Tax Rates on Fuels*.

Definitions

You are a **wholesale dealer** if you sell natural gas in BC to someone other than a purchaser (e.g. another wholesale dealer or a retail dealer). To purchase natural gas in BC exempt of carbon tax for resale, give your supplier a completed *Certificate of Exemption as a Natural Gas Wholesale Dealer* ([FIN 187](#)).

You are a **retail dealer** if you sell natural gas to a purchaser in BC. To purchase natural gas in BC exempt of carbon tax for resale, give your supplier either a copy of your natural gas retail dealer certificate, or the certificate number.

You are a **purchaser** if you buy or receive delivery of natural gas in BC for your own use. Purchasers must pay carbon tax to their supplier.

Natural Gas Retail Dealers

If you make retail sales of natural gas or biomethane to purchasers, you must be registered as a natural gas retail dealer under the *Carbon Tax Act*, prior to making sales of natural gas.

You must collect carbon tax on all sales of natural gas or biomethane at the time of sale to a purchaser, unless a specific exemption applies (see Non-Taxable Sales below). All carbon tax collected must be remitted to the ministry. For more information, see Filing Returns and Making Payments below.

You are **not** required to register under the *Motor Fuel Tax Act* or collect motor fuel tax on any natural gas you sell. However, your customer may be required to self-assess motor fuel tax if they use the natural gas in an internal combustion engine. For more information, your customer should see [Bulletin MFT-CT 006](#), *Self-Assessing Motor Fuel and Carbon Tax*.

Applying to be a Natural Gas Retail Dealer

To apply for registration as a natural gas retail dealer, you need to complete an *Application for Registration as a Natural Gas Retail Dealer* ([FIN 115](#)).

Before the ministry approves your registration, you may be required to enter into an agreement with the ministry that sets out the duties and conditions of your registration. This may include providing an unconditional letter of credit from a recognized Canadian financial institution.

If an agreement is required, the ministry will send you two copies of the agreement. If you agree with the duties and conditions outlined in the agreement, you must sign and return both copies to the ministry. The ministry will sign and return one copy to you along with a certificate authorizing you to sell natural gas. If an agreement is not required, you will simply receive a certificate.

If you are not approved for registration, the ministry will send you a letter explaining why your application was denied and how to appeal the decision if you disagree. If your application is denied, you are not authorized to sell natural gas to purchasers in BC.

If you have not been registered as a natural gas retail dealer, you must not sell natural gas to purchasers.

Suspension or Cancellation of Registration

Your registration as a natural gas retail dealer may be suspended or cancelled for not complying with the *Carbon Tax Act* or regulations, or for not meeting the duties and conditions set out in your agreement (if applicable). You may appeal the cancellation of your registration if you disagree with the decision. If your registration is suspended or cancelled, you are not authorized to sell natural gas to purchasers in BC.

Non-Taxable Sales

You are not required to collect carbon tax on natural gas you sell:

- if you export the natural gas from BC and then sell it outside of BC,
- to a purchaser if you export the natural gas from BC for the purchaser's use outside of BC,
- to a purchaser if the purchaser, at the time of sale, has entered into a contract with a common carrier to remove the natural gas from BC,
- to a business if they provide you with either a copy of their *Registered Consumer Certificate* specifying they may buy natural gas exempt of carbon tax, or their

registered consumer number and fuel type (see [Bulletin MFT-CT 004](#), *Registered Consumers*),

- to a wholesale dealer of natural gas if they provide you with a signed *Certificate of Exemption as a Natural Gas Wholesale Dealer* ([FIN 187](#)) indicating they are purchasing the fuel for resale,
- to a retail dealer of natural gas if they provide you with either a copy of their natural gas retail dealer certificate, or the certificate number,
- in sealed, pre-packaged containers of four litres or less,
- on reserve to eligible First Nation purchasers (see [Bulletin MFT-CT 002](#), *Sales to First Nations, and the Exempt Fuel Retailer Program*), and
- to visiting military forces, and members of the diplomatic and consular corps (see [Bulletin CTB 007](#), *Exemption for Members of the Diplomatic and Consular Corps*).

You must report these exempt sales and provide a breakdown by exemption type on your carbon tax return. You also need to keep documentation in your records to show why you did not collect carbon tax. This may include copies of carbon tax registration certificates, certificates of exemption, registered consumer and registered air or marine service certificates, or the name and registry number shown on a customer's *Certificate of Indian Status* card.

Biomethane

Biomethane is a carbon-neutral renewable fuel produced from biomass (e.g. agricultural and other organic wastes) that is indistinguishable from natural gas when blended (e.g. in a gas pipeline).

Carbon tax does not apply to purchases of 100% biomethane or to the portion of biomethane in a blend of biomethane and another fuel if the actual amount of biomethane in the blend is known. If the actual amount of biomethane in the blend cannot be determined, carbon tax at the rate of tax of the other fuel applies to the blended fuel, unless it qualifies for a biomethane credit.

Biomethane Credit

The Biomethane Credit Program provides a benefit to purchasers of biomethane blended with natural gas if the purchase occurs under a qualifying biomethane contract.

You must provide a biomethane credit to your purchaser if you:

- sell natural gas or a blend of natural gas and biomethane if you cannot determine the proportions of biomethane and natural gas, and
- sell the natural gas or blend under a biomethane contract.

A biomethane contract is a written contract that:

- is entered into on or after February 16, 2011,
- provides for the sale of natural gas or a blend of biomethane and natural gas,
- specifies a notional biomethane content for the fuel you sell under the contract,
- provides that a portion of the consideration payable under the contract is attributable to the purchase of the notional biomethane content specified in the contract (regardless of the actual amount of biomethane, if any, supplied), and
- does not provide that the portion of the consideration attributable to the purchase of the notional biomethane content will increase or decrease based on the actual amount of biomethane, if any, supplied.

The credit is equal to the carbon tax payable on the specified volume or percentage of biomethane. You must provide purchasers with the biomethane credit at the time of purchase on their natural gas bills. Your invoice must indicate:

- the date of the sale,
- the name and address of the seller,
- the name and address of the purchaser,
- the total amount of fuel sold,
- the applicable carbon tax rate, and
- the amount of the biomethane credit as a separate item.

To recover the amount of the biomethane credit, you may deduct the amount of the credit provided from the amount of tax you are required to remit using Line 7b (Tax Adjustments – Other) of your carbon tax return. You are eligible for a credit equal to the sum of the biomethane credits you provide during the reporting period. However, regardless of the sum of the credits provided, you may only claim a credit to a maximum of the amount of biomethane you blend with natural gas in the reporting period multiplied by the tax rate for natural gas.

If you provide the credit, you must keep all records related to the credit including:

- copies of all your biomethane contracts,
- a record of the date each contract was entered into,
- a record of the name and address of each purchaser,
- records related to the amount of biomethane that you, in each reporting period, blended with natural gas for sale in BC for the biomethane contracts,
- records related to the total amount of biomethane that you, in each reporting period, blended with natural gas in BC, and

- records related to each biomethane credit provided, including the amount of fuel sold and the amount of the biomethane credit provided.

Reporting and Remitting Tax

Filing Returns and Making Payments

You must report your sales and remit the carbon tax due to the ministry by the **15th day** of the month following the reporting period in which you sold natural gas to a purchaser in BC.

Tax Returns

You use the *Carbon Tax Return - Natural Gas Retail Dealer (FIN 106)* to report your sales and remit the carbon tax due.

How to File and Pay

You can file and pay your tax returns:

- online using [eTaxBC](#), or
- by mail, courier or in person using the paper form [FIN 106](#) available on our website.

Reporting Periods

Reporting periods are monthly, quarterly or annually, and are established when you are registered as a natural gas retail dealer. Your reporting period is based on the annual amount of carbon tax you must remit as follows:

- less than \$12,000 – annual reporting (July 1 – June 30),
- \$12,000 to less than \$120,000 – quarterly reporting (January 1 – March 31, April 1 – June 30, July 1 – September 30, October 1 - December 31), or
- \$120,000 or more – monthly reporting.

Once your filing period is assigned, you will receive a reminder in the mail prior to each remittance due date. If you have an [eTaxBC](#) account, you will receive your reminder by email.

Due Dates

If the due date for the tax return and payment falls on a weekend or a BC statutory holiday, the due date is the next business day.

If you file and pay online using [eTaxBC](#), your tax return and payment will be considered on time if they are posted to eTaxBC by 11:59 pm (Pacific Time) on the due date.

If you send in your tax return and payment by mail, it is considered on time if the envelope is postmarked by Canada Post (or national equivalent if outside Canada) on or before the due date. A business postage meter mark is not sufficient. If you mail your return and payment on or near the due date, ask Canada Post to postmark the envelope immediately.

If you hand deliver your tax return and payment, or send it by courier, it must be received by the ministry by the close of business (4:30 pm) on the due date to be considered on time.

Your payments must be negotiable on or before the due date to be considered on time (e.g. if your payment is submitted on time but is post-dated after the due date, it will be considered late). If you are paying by cheque, it must be payable in Canadian funds to the Minister of Finance.

If you are filing a nil tax return, you may fax it but it must be received by the ministry by 11:59 pm on the due date.

If your return and payment are not received on time, penalties and interest may be applied. Nil tax returns and amended tax returns are treated the same as other late tax returns in evaluating filing history.

Please note:

- If you identify an error in a tax return from a previous reporting period, you must submit an amended return for that reporting period.
- If you are a natural gas retail dealer and sell natural gas through a third party and the third party does not provide the volume of natural gas delivered to your customers until after your return due date, you may report the sales and remit tax based on your billing cycle. You must obtain approval from the ministry prior to reporting based on a billing cycle. For example:
 - Natural gas is delivered to your customer in June by a third-party common carrier (e.g. a pipeline company).
 - You get a customer delivery statement from the pipeline company on July 17 and issue a July billing/sales invoice to your customer.
 - Instead of reporting the June deliveries on your June return, which was due July 15, you report these billings on your July return, which is due August 15.

Additional Responsibilities for Natural Gas Sellers

Reporting Carbon Tax on Sales Invoices

You must report the amount of carbon tax charged on your sales invoices if you sell natural gas:

- from a bulk storage facility, cardlock or terminal rack,
- for resale,
- to a registered consumer, registered air service or registered marine service, or
- to a customer that requests an invoice.

If you are required to issue an invoice to your customer, it must include:

- the date of the sale,
- your name and address,
- the location of the sale if different than above and, if applicable, where the natural gas was delivered,
- the name and address of the person you sold the natural gas to,
- the quantity of natural gas sold, and
- the rate of carbon tax for the natural gas sold as a separate line or column on the invoice.

Refunds

You may apply for a refund using your carbon tax return if you have remitted carbon tax to the ministry on your sales of natural gas or biomethane but have not collected the tax because credit was extended to a customer, and the account, or portion of the account, later became uncollectable and was written off as bad debt.

If you purchase natural gas for your own use and you sell any of that natural gas to another wholesale dealer or retail dealer, you may apply for a refund of the carbon tax paid using an *Application for Refund of Carbon Tax – Purchaser of Fuel* ([FIN 108](#)).

Need more info?

Online: gov.bc.ca/consumertaxes

Toll free in Canada: 1 877 388-4440

Email: CTBTaxQuestions@gov.bc.ca

Access our forms, publications, legislation and regulations online at gov.bc.ca/consumertaxes (go to **Motor Fuel Tax and Carbon Tax** and then **Forms** or **Publications**).

Subscribe to our **What's New** page to receive email updates when new information is available.

The information in this bulletin is for your convenience and guidance and is not a replacement for the legislation.



Reference: 275150

March 13, 2015

Jason Wolfe
Director
Energy Solutions
FortisBC
16705 Fraser Highway
Surrey BC V4N 0E8

RE: FortisBC Renewable Natural Gas for Public Sector Organizations

Dear Mr. Wolfe:

The Climate Action Secretariat would like to follow up on our October 25, 2012 letter regarding FortisBC's renewable natural gas for public sector organizations (PSOs).

The Climate Action Secretariat would like to amend its policy that acknowledges that FortisBC's Renewable Natural Gas Program displaces natural gas with the use of a carbon neutral fuel as follows:

- The percentage of fossil fuel natural gas purchased through the program will be displaced by biogenic or carbon neutral fuel, herein referred to as "renewable natural gas".
- The environmental attributes of the renewable natural gas have not been and will not be recognized under any other greenhouse gas reduction program.
 - e.g. the displacement of fossil fuel has not been sold as an offset
- FortisBC will continue to ensure all of their newly commissioned renewable natural gas production facilities are independently certified as producing carbon neutral gas.
- FortisBC will publish annual reports on the program that include, but are not limited to renewable natural gas:
 - production and purchases (if any);
 - sales to consumers;
 - sales to gas marketers, distributors or re-sellers; and,
 - end of period balance of production and purchases vs. sales.

.../2

- FortisBC will make commercially reasonable efforts to address, within the subsequent reporting period, any oversubscription of renewable natural gas (i.e. deficit in production vs. sales) through increased production and/or through direct purchase of renewable natural gas that is independently certified as carbon neutral gas (where the biogenic nature of such gas has not been, and will not be recognized under any other greenhouse gas reduction program).
- FortisBC will clearly distinguish the GJ value of renewable natural gas and natural gas purchases on customers' bills.
- FortisBC will publish the policy, including the above points on its website.
- This policy will be revised on an annual basis to account for ongoing improvements in greenhouse gas quantification science.

Given the above, PSOs will continue to not have to purchase offsets for the renewable natural gas portion of their natural gas that comes from FortisBC. Since international rules¹ require the separate reporting of biogenic emissions from combustion; the BioCO₂ emissions from renewable natural gas will need to be calculated and reported separately from those of the fossil fuel component. PSOs will not be required to offset the BioCO₂ component of their emissions but will continue to be required to offset the CH₄ and N₂O emissions from their biogenic combustion.

Modifications will be made to account for this policy change in the province of British Columbia's application for greenhouse gas measurement and reporting (currently "SMARTTool"). Moving forward, for any given volume of reported FortisBC natural gas where a blended percentage of renewable natural gas has been purchased; customers will enter the blended portion of renewable natural gas consumption in GJs, and the remainder will be entered as natural gas consumption in GJs. The attribution of emission factors per GJ of renewable natural gas and natural gas are outlined in Table 1.

.../3

¹ The CO₂ released to the atmosphere during combustion of biomass is assumed to be the same quantity that had been absorbed from the atmosphere during plant growth. Because CO₂ absorption from plant growth and the emissions from combustion occur within a relatively short timeframe to one another (typically 100-200 years), there is no long-term change in atmospheric CO₂ levels. For this reason, biomass is often considered "carbon-neutral" and the Intergovernmental Panel on Climate Change (IPCC) *Guidelines for National Greenhouse Gas Inventories* specifies the separate reporting of CO₂ emissions from biomass combustion. See: IPCC (2006), *2006 IPCC Guidelines for National Greenhouse Gas Inventories*, p. 5.5; and the Climate Registry (2012), *General Reporting Protocol Version 2.0*, pp. 36-37.

Table 1: Natural Gas and Renewable Natural Gas Emissions Factors

Fuel Type	Energy Conversion Factor	Kg/ GJ				
		Bio CO ₂	CO ₂	CH ₄	N ₂ O	CO ₂ e (offsetable)
Natural Gas	0.03874 GJ/ m ³	-	49.46	0.0010	0.0009	49.7510
Renewable Natural Gas	0.03874 GJ/m ³	49.46	-	0.0010	0.0009	0.2931

Thank you once again for your contribution on this important topic.

Sincerely,



Susanna Laaksonen-Craig
Head, Climate Action Secretariat

Attachment 15.2

REFER TO LIVE SPREADSHEET MODELS

Provided in electronic format only

(accessible by opening the Attachments Tab in Adobe)