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July 5, 2013

Via Email
Original via Mail

BC Sustainable Energy Association
c/o William J. Andrews, Barrister & Solicitor
1958 Parkside Lane
North Vancouver, B.C.
V7G 1X5

Attention: Mr. William J. Andrews

Dear Mr. Andrews:

Re: FortisBC Energy Inc. (FEI)

Biomethane Service Offering: Post Implementation Report and Application for Approval for the Continuation and Modification of the Biomethane Program on a Permanent Basis (2012 Biomethane Application) (the Application)

Response to the BC Sustainable Energy Association (BCSEA) Information Request (IR) No. 2

On May 28, 2013, FEI filed its response to IR No. 1. In accordance with Commission Order G-53-13 setting out the Revised Regulatory Timetable for review of the Application, FEI respectfully submits the attached response to BCSEA IR No. 2.

If further information is required, please contact the undersigned.

Sincerely,

FORTISBC ENERGY INC.

Original signed by: Shawn Hill

For: Diane Roy

Attachments

cc (e-mail only): Commission Secretary
Registered Parties

FortisBC Energy Inc. (FEI or the Company) Biomethane Service Offering: Post Implementation Report and Application for Approval for the Continuation and Modification of the Biomethane Program on a Permanent Basis (2012 Biomethane Application) (the Application)	Submission Date: July 5, 2013
Response to B.C. Sustainable Energy Association (BCSEA) Information Request (IR) No. 2	Page 1

1 **30.0 Topic: GHG emissions**

2 **Reference: Exhibit B-14, response to BCSEA IR 18.1**

3 30.1 Please confirm, or otherwise explain, whether the following points accurately
4 summarize FortisBC's approach to the GHG emissions aspect of the Biomethane
5 Program:

6 (1) The GHG emissions benefits of the Biomethane Program are due to the
7 displacement of the combustion of natural gas.

8 (2) Credit for the GHG emissions attributable to the Biomethane Program
9 goes primarily to the customers who participate in the Program and
10 secondarily to all FortisBC ratepayers who bear the limited residual
11 financial risk associated with the Program.

12

13 **Response:**

14 FEI confirms the following:

15 1. The GHG emissions benefits of the Biomethane Program are due to the displacement of
16 the combustion of the fossil fuel natural gas with a carbon neutral, renewable source of
17 natural gas. Additionally, there are GHG emission benefits of the Biomethane Program
18 from the capture and destruction of methane that would otherwise escape to atmosphere
19 and the beneficial and efficient use of a waste resource.

20 2. Credit for the GHG benefits for the displacement of fossil fuel natural gas that has a
21 carbon intensity of 50 kg CO₂e per GJ flows through to the customers who participate in
22 the Program and secondarily to all FortisBC ratepayers who bear the limited residual
23 financial risk associated with the Program.

24

FortisBC Energy Inc. (FEI or the Company) Biomethane Service Offering: Post Implementation Report and Application for Approval for the Continuation and Modification of the Biomethane Program on a Permanent Basis (2012 Biomethane Application) (the Application)	Submission Date: July 5, 2013
Response to B.C. Sustainable Energy Association (BCSEA) Information Request (IR) No. 2	Page 2

1 **31.0 Topic: Future Biomethane Program potential expansion**

2 **Reference: Exhibit B-17, response to BCUC IR 49.7, page 182; Exhibit B-14,**
3 **response to BCSEA IR 27.1**

4 FEI says it “would support an approach similar to a renewable portfolio standard, subject
5 to a few qualifying comments.”

6 31.1 Please explain more fully what “would support” means.

7
8 **Response:**

9 FEI means that it is in favour of adopting a renewable portfolio standard (or allowance), subject
10 to the qualifications discussed in the response to BCUC IR 1.49.7, in place of FEI’s current
11 biomethane program.

12
13

14

15 31.2 Please outline the advantages and disadvantages of moving from the current
16 voluntary user-pay model to a portfolio standard (or similar) model, from the
17 following perspectives: FEI’s interests, costs to operate and administer the
18 program, costs to customers and to non-participating ratepayers, customer
19 education and engagement, maximization of the use of biomethane by FEI
20 customers, maximum capture of the biomethane resource potential in BC, and
21 support for the biomethane industry in BC.

22

23 **Response:**

24 Provided below is an outline of the key advantages and disadvantages from the perspectives
25 listed above that FEI sees at this time of: the existing user-pay model, a renewable portfolio
26 standard or allowance model and FEI’s proposed model. While FEI has attempted to be
27 comprehensive, the following outline may be incomplete.

28 **Existing User Pay Model**

29 **Advantages:**

- 30 • Customers can opt in or out of the program as they see fit.
- 31 • Program is supported predominantly by customers who have decided to participate.
- 32 • Cost allocation achieves reasonable biomethane rates for participants with minimal rate
33 impacts to non-participants.

FortisBC Energy Inc. (FEI or the Company) Biomethane Service Offering: Post Implementation Report and Application for Approval for the Continuation and Modification of the Biomethane Program on a Permanent Basis (2012 Biomethane Application) (the Application)	Submission Date: July 5, 2013
Response to B.C. Sustainable Energy Association (BCSEA) Information Request (IR) No. 2	Page 3

- 1 • 10% blend option allows customers to opt-in for minimal cost.

2

3 Disadvantages:

- 4 • Supply and demand cannot be exactly correlated and at times may be out of balance.
- 5 • Cost to administer would likely be similar to other models and there would continue to be
- 6 customer education costs, procurement costs and regulatory costs.
- 7 • Suppliers face regulatory risk with which they are unfamiliar.
- 8 • Rate Schedule 1-3 customers currently limited to a 10% blend.
- 9 • May not support maximum use of biomethane by FEI customers or maximum
- 10 biomethane resource development in BC.

11

12 **Renewable Portfolio Standard (Allowance) Model**

13 Advantages:

- 14 • FEI would be able to fully pursue supply projects and maximize biomethane
- 15 development.
- 16 • Rate impact would be spread over all customers.
- 17 • FEI would gain a broader experience in developing and managing supply projects and
- 18 building up of resources, including the management of the supply and demand
- 19 imbalances.
- 20 • The regulatory risk for the supplier market would be reduced and there would be
- 21 improved regulatory efficiency for approval of supply contracts.

22

23 Disadvantages:

- 24 • Customers could not elect for higher blends of biomethane.
- 25 • Cost to administer would likely be similar as in a user pay model with a slight reduction
- 26 in customer education and regulatory costs, but perhaps an increase in procurement
- 27 costs.

28



FortisBC Energy Inc. (FEI or the Company) Biomethane Service Offering: Post Implementation Report and Application for Approval for the Continuation and Modification of the Biomethane Program on a Permanent Basis (2012 Biomethane Application) (the Application)	Submission Date: July 5, 2013
Response to B.C. Sustainable Energy Association (BCSEA) Information Request (IR) No. 2	Page 4

1 **FEI's Proposed Model: User Pay Model with Unsold Biomethane Transferred to the**
2 **MCRA and Expansion of Other Blends**

3 **Advantages:**

- 4 • Customers can opt in or out of the program as they see fit.
- 5 • Program is supported predominantly by customers who have decided to participate.
- 6 • Cost allocation achieves reasonable biomethane rates for participants with minimal rate
7 impacts to non-participants.
- 8 • Customers have options to increase the blend.
- 9 • Additional tariffs allows more customers to participate in the program.
- 10 • Expansion of the customer offering and blends mitigates risk of oversupply.
- 11 • Development of long-term agreements for large volume customers offer demand
12 certainty.
- 13 • Biomethane resource development opportunity is strong, as is use by customers.
- 14 • MCRA cost recover mechanism provides transparent mechanism for recovery of costs of
15 transferred biomethane.
- 16

17 **Disadvantages:**

- 18 • Supply and demand cannot be exactly correlated and at times may be out of balance.
- 19 • Cost to administer would likely be similar to other models and there would continue to be
20 customer education costs, procurement costs and regulatory costs.
- 21 • Suppliers face regulatory risk with which they are unfamiliar.
- 22
- 23

24 FEI believes that the expansion of the existing model for which it is seeking approval, including
25 the transfer of the cost of unused biomethane to the MCRA, is the best way for promoting
26 renewable natural gas in the case of a user pay model.

27

28

29

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31 31.3 Would a shift from the current user-pay model to a portfolio standard (or similar)
32 model government require government intervention? If so, what would be the
33 options for such intervention, at a high level? If not, please outline the process

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Response to B.C. Sustainable Energy Association (BCSEA) Information Request (IR) No. 2	Page 5

1 and time-lines that FEI thinks would be appropriate if it were to shift the
2 Biomethane Program from the current user-pay model to a portfolio standard (or
3 similar) model.

4
5 **Response:**

6 FEI believes a true renewable portfolio standard or allowance would have to be established by
7 government through a regulation or other legislation, but that it is within the Commission's
8 powers to approve a biomethane program that had a similar effect. Please refer to the
9 response to BCUC IR 2.42.3.

10 To implement a renewable portfolio standard or allowance, the Government could direct utilities
11 in the province through legislation to develop biomethane projects based on a renewable
12 portfolio standard or allowance and establish that as the model. A regulation under section 18
13 of the *Clean Energy Act* establishing biomethane projects as prescribed undertakings is one
14 possible approach, although other special directions or legislative mechanisms could also be
15 used. FEI believes the timing involved in such a program change, if driven by a government
16 regulation (or other legislative change) would be in the range of 8 months or more to establish
17 the regulation. Additional time would also be required to work through any regulatory process
18 needed to establish accounting treatments or rates, or incorporate other changes resulting from
19 the regulation to the satisfaction of the Commission. The delays and market uncertainty
20 associated with this approach make it very unattractive as an alternative to the current
21 Application.

22 As indicated in the responses to BCUC IRs 1.36.2 and 1.49.7, FEI's preferred option is to have
23 a program that consists of a user pay model backed by renewable portfolio allowance. This
24 preferred option would enable FEI to retain the ability to sell higher percentage blends of
25 biomethane to customers that for various reasons wish to purchase gas that is "greener" than
26 average.

27

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Response to B.C. Sustainable Energy Association (BCSEA) Information Request (IR) No. 2	Page 7

1 **33.0 Topic: Biomethane supply**

2 **Reference: Exhibit B-17: Response to BCUC IR 1.53.1, page 192**

3 FEI says: “The “High Potential” curve was derived from a study 1 done by CHFour and
4 provided to FEI (please refer to Attachment 53.2.1 in response to BCUC IR 1.53.2.1).
5 FEI used this study as a basis to validate the original estimates of potential in the
6 province. The study looked specifically at Agricultural waste and Organic Fraction of
7 municipal waste. It did not include existing landfills or Institutional and Commercial
8 Waste. The report focused on regions where FEI has existing infrastructure only,
9 providing a refinement over previous work FEI had done. The report concluded that
10 there was a maximum potential of 5.4 PJs annually. However, based on the author’s
11 opinion, that potential would likely translate to a maximum of 2.4 PJs annually. The
12 report ignored existing waste in landfills and ICI waste, which typically has a very high
13 biogas yield per ton. Therefore, FEI adjusted the total potential upwards to include these
14 sources of energy. Specifically, FEI added 2.5 PJs to account for landfill gas (includes
15 Delta Landfill), ICI waste and wastewater plants for a total of approximately 4.9 PJs. FEI
16 believes this is a reasonable estimate based on the report by CHFour and its original
17 assessment of potential done for the 2010 Biomethane Application.”

18 33.1 Please explain in more detail the changes and adjustments made in moving from
19 the CHFour study to the “High Potential” curve, including adjustment of the
20 maximum potential of 5.4 PJ to 2.4 PJ.

21
22 **Response:**

23 The CHFour report concluded that there was a maximum potential of 5.4 PJ within the province
24 of BC. This potential was drawn from regions that overlap the existing FEI system. This is a
25 reasonable assumption, because much of the waste is close to existing populations which are
26 also served by FEI. The 5.4 PJ of potential was derived by summing the potential in four (4)
27 regions as defined by Statistics Canada as “Census Agricultural Regions”. This was a
28 convenient division on which to build energy estimates because there is good data related to
29 agricultural activity and therefore agricultural waste and biomethane potential in these regions.

30 The report author then derived a realistic maximum potential of 2.4PJ. The author also looked
31 at the potential based upon an average size digester. For example, in the Kootenay region the
32 author calculated a maximum potential of approximately 250,000 GJ per year based on the
33 known livestock population. This could support up to 2 digesters of 125,000 GJ per year.
34 However, due to the relatively low population and large area, it was assumed that it would be
35 difficult to aggregate all of this waste into two locations. So the author concluded it was likely
36 that only 1 digester could be built, bringing the total expected potential down to approximately 1



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Response to B.C. Sustainable Energy Association (BCSEA) Information Request (IR) No. 2	Page 8

1 large digester with a capacity of approximately 150,000 GJ per year. Other regions were
2 estimated similarly.

3 Please refer to the CHFour Report in Attachment 53.2.1 provided in in response to BCUC IR
4 1.53.2.1 for further details on CH Four's 2.4 PJ estimate.

5 FEI believed that the CHFour estimate was conservative based upon the fact that it did not take
6 into account existing landfills and the author did not include a realistic estimate of institutional,
7 commercial and industrial organic waste. Therefore, FEI added 2.5 PJ to the estimate to reach
8 a maximum of 4.9 PJ. FEI derived 2.5 PJ simply by using ~10% of the estimated available
9 supply of municipal solid waste, wastewater and landfill gas potential in BC (estimated at 26
10 PJ). FEI believes this to be a reasonable estimate because it takes into account sources of
11 biogas not included in the CHFour study but it does not take into account possible project size
12 or location. This was an estimate provided by the BC Bioenergy Network in its Discussion Paper
13 and filed as an attachment to the 2010 Biomethane Application and used by FEI to derive its
14 original potential supply in the 2010 Application (Section 7.3.1). As discussed in the original IR,
15 FEI did not do an exhaustive analysis in order to minimize costs.

16
17

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19

20 FEI says "FEI intentionally minimized costs associated with biogas potential studies in
21 the absence of a permanent program. FEI intended only to provide some validation and
22 therefore the report completed by CHFour was not exhaustive."

23 33.2 Would FEI be willing to provide a more exhaustive assessment of the
24 biomethane potential in BC as part of reporting or compliance requirements of
25 the current review?
26

27 **Response:**

28 If the Commission directs FEI to provide further assessment of the biomethane potential as part
29 of reporting or compliance requirements or otherwise, then the FEI will provide it. However, FEI
30 believes that the high level estimates that it has are sufficient at this time.

31
32