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January 11, 2013

British Columbia Utilities Commission
6th Floor, 900 Howe Street
Vancouver, BC
V6Z 2N3

Attention: Ms. Erica M. Hamilton, Commission Secretary

Dear Ms. Hamilton:

Re: FortisBC Energy Inc. ("FEI")

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

Summary Report in Compliance with British Columbia Utilities Commission (the "Commission") Order No. G-1-13

On December 19, 2012, FEI submitted an Application to the Commission which, among other things, sought a continuation of the Biomethane Program on a permanent basis and included a Post Implementation Report ("PIR") on the FEI Biomethane Pilot Program in compliance with Commission Order No. G-194-10.

Pursuant to Order No. G-194-10, the PIR was required to include:

- Full financial review of all projects (individual and aggregate numbers) which have been undertaken,
- Validation of the market research,
- Enrollment and attrition rates,
- Costs and assessment of customer marketing/education programs,
- Customer segmentation and targeting,
- Assessment of Pricing Methodology and Principles for Cost Recovery,
- Future Projects that are under consideration, and
- Forecasts of Biomethane supply as well as customer demand and anticipated update for the next ten year period.

On January 8, 2013, the Commission issued Order No. G-1-13 (the "Order"), establishing a Preliminary Regulatory Timetable for the review of the Application, and setting a Workshop to review the PIR for Thursday, January 17, 2013.

Paragraph no. 4 of the Order directed FEI file a summary report providing a comprehensive analysis of the Biomethane Pilot Program which includes conclusions for each of the PIR requirements as identified in Order No. G-194-10 (the "Summary Report"), and to provide the Summary Report to all parties as the basis of the PIR Workshop.

In compliance with paragraph no. 4 of the Order, attached please find the Summary Report.

If you have any questions or require further information related to this Application, please do not hesitate to contact the undersigned.

Yours very truly,

FORTISBC ENERGY INC.

Original signed:

Diane Roy

Attachment

cc (email only): Registered Parties to the FEU 2012-2013 RRA, FEI 2010 Biomethane Application, Natural Gas Marketers

FORTISBC ENERGY INC.

Biomethane Pilot Program: Post Implementation Summary Report

in Compliance With British Columbia Utilities Commission Order No. G-1-13

January 11, 2013

Table of Contents

1 INTRODUCTION

On December 14, 2010, the British Columbia Utilities Commission ("BCUC" or the "Commission") issued its Decision (the "2010 Biomethane Decision") and Order No. G-194-10 on the FortisBC Energy Inc. ("FEI") (formerly Terasen Gas Inc.) 2010 Biomethane Application. Order No. G-194-10 required FEI to file a Post-Implementation Report ("PIR") and hold a Workshop to review the PIR. The Decision identified the PIR requirements to include, but not be limited to the examination of the following information:

- Full financial review of all projects (individual and aggregate numbers) which have been undertaken,
- Validation of the market research for customers subscribing to the renewable natural gas ("RNG") Offering,
- Enrollment and attrition rates,
- Costs and assessment of customer marketing/education programs,
- Customer segmentation and targeting,
- Assessment of Pricing Methodology and Principles for Cost Recovery,
- Future Projects that are under consideration, and
- Forecasts of Biomethane supply as well as customer demand and anticipated update for the next ten year period.

On December 19, 2012, FEI submitted an Application which, among other things, sought a continuation of the Biomethane Program on a permanent basis and included the PIR in compliance with Commission Order No. G-194-10 (the "Application" or "Exhibit B-1").

On January 8, 2013, the Commission issued Order No. G-1-13, which in paragraph no. 4 directed FEI file a summary report providing a comprehensive analysis of the Biomethane Pilot Program which includes conclusions for each of the PIR requirements as identified in Order No. G-194-10 (the "Summary Report"), and to provide the Summary Report to all parties as the basis of the PIR Workshop.

Therefore, in compliance with paragraph no. 4 of Order No. G-1-13, FEI is filing this Summary Report. The content of this report is a summary of the information provided in the Application constituting the PIR. References are provided throughout the Summary Report to where more detailed information can be found in the body of the Application.

The remainder of the Summary Report contains the information required by the 2010 Biomethane Decision outlined above and is organized as follows:

Section 2 Customer segmentation analysis and targeting

Section 3 Validation of the market research

Section 4	Analysis of costs and assessment of customer marketing/education programs
Section 5	Assessment of enrollment and attrition rates
Section 6	Customer Demand Forecast for next ten year period
Section 7	Full financial review of all projects (individual and aggregate numbers) which have been undertaken and 10 year Biomethane supply forecast
Section 8	Future Projects that are under consideration
Section 9	Assessment of Pricing Methodology and Principles for Cost Recovery

2 CUSTOMER SEGMENTATION AND TARGETING

This section discusses the customer segmentation and targeting for the Biomethane Program. Similar to non-RNG customers, customers in the Biomethane Program are segmented into two broad categories: Residential and Commercial. Commercial customers are further segmented into small and large customers. The characteristics of the residential and commercial customer segments for the Biomethane Program, in terms of their motivations and demographics, are discussed below.

2.1 Residential Customers

FEI conducted an online survey in October 2012 of existing residential RNG subscribers (Exhibit B-1, Appendix E-1). The survey results show that the primary motivations for a customer subscribing to the RNG offering were preserving the environment, providing for future generations and doing the right thing. The motivations for signing up were identical to what was identified in the initial research at the time of submitting the 2010 Biomethane Application.

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. There also appears to be 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. 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 70 percent of those surveyed indicated AIR MILES reward miles was a motivation for them to sign up for RNG.

Based on its initial research, FEI anticipated that the greatest participation in the RNG Offering would be in the demographic between the ages of 35 and 55. The participation in the program to date, however, show that the largest demographic is in the 45 to 65+ age group, with the single largest segment in the 65+ category. Therefore, the market is slightly older than what was reflected in the original market research. Customer participation is higher in single detached homes. More than 65 percent of the participation is coming from the Lower Mainland.

Please refer to Exhibit B-1, Section 3.2.1, for additional details and charts on residential customer motivation and demographics.

2.2 Commercial Customers

FEI's primary commercial segments are Rate Schedule 2 (small commercial) and 3 (large commercial) customers. The primary target markets within these segments are: apartment/condos, commercial/office buildings, education, restaurant, wholesale/retailers and other (includes transportation, recreation, hotels, printing, and construction).

An emerging secondary market within the commercial category that was not identified in the original market research is public sector organizations ("PSO"s). PSOs are currently mandated to be carbon neutral through government policy[1] 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 criteria[2] for the Standing Offer Program or Load Displacement Agreements.

FEI's survey of current commercial customers (Exhibit B-1, Appendix E-2), indicated that the primary motivation for businesses participating in the RNG Offering 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 percent 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.

The majority of commercial participants are small commercial customers (Rate Schedule 2) that come from either the Food/Hospitality industry or the Service industry. There is also a broad range of other organizations that have participated in the RNG Offering that want to support the development of renewable energy in BC and do the right thing for the environment. As with the residential market, the majority of the participants are located in the Lower Mainland.

Please refer to Exhibit B-1, Section 3.2.2, for additional details and charts on commercial customer motivation and demographics.

2.3 Off-System Sales

Rate Schedule 30 – Off-system Interruptible Sales allows for off-system sales of Biomethane to markets in the US. Since program participation is increasing and supply infrastructure is limited, FEI has not pursued off-system sales at this time in order to retain an inventory.

2.4 Conclusions on Customer Segmentation and Targeting

A review of customer segmentation has shown that FEI's original research on customer targeting and motivations for signing up was largely accurate. Eligible residential and commercial customer segments represent the biggest area of future market potential to acquire additional customers. In this two year trial period, FEI has also learned that the target demographic for residential customers is older than originally anticipated and there also exists a secondary market in residential customers that needs something beyond doing something good for the environment. Additionally, PSO's and organizations looking at developing cogeneration projects using biomethane represent new market potential for Biomethane sales.

[1] Greenhouse Gas Reduction Targets Act – Carbon Neutral Government Regulation. B.C. Reg. 392/2008
[2] BC Hydro Standing Offer Program, Program Rules Version 2.1. Section 2.2 Eligible Energy

3 VALIDATION OF MARKET RESEARCH AND PROGRAM RESULTS

In the 2010 Biomethane Application, FEI conducted market research to understand the potential residential market uptake for the RNG Offering. This section discusses the actual market uptake of the RNG Offering as well as the updated market research, which compares the actual market uptake to the expectations based on the original research.

3.1 Residential Uptake

Phase 1 of the RNG Offering launched in June 2011 and opened the RNG Offering to FEI residential customers. FEI aimed to increase demand to 1 percent of residential customers by the end of 2011, with the goal of reaching 2 percent by the end of 2012. Actual participation rates are ramping up at a slightly slower than expected rate, but are trending towards the industry median for green pricing programs in North America of 1 percent. The current average participation rate for green pricing programs is 2.1 percent and the majority of programs have been in market 5-10 years, as discussed further in Exhibit B-1, Section 4.1.

A summary of results compared to original targets is provided below:

Table 3-1: Original Targets: 2010 Biomethane Application

		# of Customers	Volume (GJ)	# of Eligible Customers[1]	% of Customers	Enrolments	Volume (GJ)	Volume (GJ) @ 10%
Oct 2010 - Dec 2010	Residential	752,416	72,348,220	616,981	0.50%	3,085	73,267	7,327
2011	Residential	752,416	72,348,220	616,981	1.00%	6,170	586,132	58,613
2012[2]	Residential	752,416	72,348,220	616,981	2.00%	12,340	1,172,264	117,226

Table 3-2: Program Results[3]

		# of Customers	Volume (GJ)	# of Eligible Customers[1]	% of Customers	Enrolments	Volume (GJ)	Volume (GJ) @ 10%
June 2011 - Dec 2011	Residential	752,416	72,348,220	616,981	0.18%	1,088	51,680	5,168
Forecasted 2012[2] *Comparable to 2011 Target*	Residential	752,416	72,348,220	616,981	0.78%	4,800	456,000	45,600

Notes:
[1] Eligible customers are those not currently enrolled with a marketer

[2] 2012 projections do not include commercial market customers or growth in residential customers

[3] For comparison purposes, the number of eligible customers and average annual customer use rate (UPC) used in the 2010 Biomethane Application have been used. FEI has used updated numbers of eligible customers and average UPC rates in the 10 year forecast. Due to the delay in the launch of the program, 2012 program results are comparable to 2011 Targets set out in the 2010 Biomethane Application.

As highlighted in Section 5 of the 2010 Biomethane Application, FEI's initial customer research showed a potential residential market uptake of 16 percent for a 10 percent blend. As this study

was conducted prior to implementation, conditions such as likeability and familiarity of the program were not tested. FEI recently updated its primary research, commissioning TNS Canadian Facts ("TNS"), one of Canada's largest marketing and social research firms, to conduct a primary market research study to validate and re-evaluate the potential residential uptake for the RNG Offering. A copy of the research can be found in Exhibit B-1, Appendix E-3, and E-4.

In FEI's updated research, over 1,000 FEI residential customers were surveyed online to determine the success of the current offering, and 400 FEI residential customers, currently not enrolled in the program, were surveyed online to determine the level of interest in the RNG Offering at given price points. The updated primary research indicated that, all else being equal, 52 percent of customers, compared to 56 percent as surveyed in 2009, would likely sign up for an RNG Offering[3]. In 2009, there was a projected 16 percent of the market that would sign up for a $6 monthly increase to reduce their GHG emissions by 10 percent. This year, that number is 27 percent (assuming perfect market conditions). The updated research also tested familiarity of the RNG Offering. The results show that 13 percent of respondents are familiar with the RNG Offering. Applying a 13 percent familiarity rate to a 27 percent market potential results in a potential participation rate of 3.5 percent. The current participation rate of 1 percent is tracking towards the achievable potential of 3.5 percent.

3.2 Commercial and On-System Sales Uptake

There were not a specific number of commercial enrolments targeted in the first two years of the RNG Offering as the rollout to other rates classes was to be driven by the uptake rates and supply availability in the first phase. As the supply capacity had not been reached yet, FEI opened up the RNG Offering to commercial customers in order to meet the volume demand targets of the RNG Offering. Phase 2 of the RNG Offering launched in March 2012, after FEI's new Customer Information System ("CIS") was operational and supplier reliability was proven. Phase 2 opened the RNG Offering up to commercial customers (Rate Schedules 2B and 3B) for a 10 percent Biomethane blend.

In addition to Rate Schedules 2B and 3B, FEI also offered bulk sales of Biomethane through Rate Schedule 11B – Biomethane Large Volume Interruptible Sales (Rate Schedule 11B allows for the bulk sale of Biomethane to on-system transportation only customers, who currently receive service from FEI under a transportation service schedule (Rate Schedules 22, 23, 25, or 27).

As of December 12, 2012, there were 75 commercial customers signed up for the program, representing a potential annual demand of more than 15,000 GJ. The additional volumes brought on by the commercial market have FEI exceeding the volume target of 58,613 GJ over the 2011/2012 time period that had been set out in the Biomethane Application. These figures are shown in Table 3-3 below, which has used an annualized average use per customer for the actual demand figures to be comparable to the methodology in the 2010 Biomethane

[3] Exhibit B-1, Appendix E-3 – TNS Report

Application in the target demand column. For additional details on actual consumption and year end forecast, please refer to Exhibit B-1, Section 3.4.

Table 3-3: Results vs. Forecast Demand Residential & Commercial [1]

		Target # of Customers	Actual # of Customers	Target Demand (GJ)	Actual Annual Demand (GJ)
June 2011 - Dec 2011	Residential	3,085	1,088	7,327	5,168
As of December 12th 2012	Residential	6,170	4,693	58,613	44,584
	Commercial		72		5,720
	On System Sales		3		9,660
	Total	6,170	4,768	58,613	59,964

Notes:

[1] For comparison purposes, annual demand incorporates average UPC rates from Biomethane Application.

3.3 Conclusions regarding Market Research and Program Results

The participation rates to date are below the high demand forecast included in the 2010 Biomethane Application, but are following the targeted demand of 1-2 percent, which is the trend of other green pricing programs in North America. Although the participation rates were lower than expected, the additional volumes from commercial customers (Rates 2B, 3B and 11B) result in the program exceeding the demand target as set out in the 2010 Biomethane Application. Key findings from the 2012 research demonstrate that the market potential for the current RNG Offering is 27 percent for a 10 percent blend, but that, when taking into consideration current awareness levels; a best case estimate is 3.5 percent should all customers follow through with their intentions.

These results re-confirm that the current results of the RNG Offering, and are in line with the trends shown by similar programs across North America. FEI believes that as the RNG Offering matures in the market place, and awareness of the RNG Offering grows, the participation rate will increase and ramp up to 2.1 percent in five years.

4 COSTS AND ASSESSMENT OF CUSTOMER EDUCATION

This section describes FEI's customer education program for the RNG Offering, including costs, channels of communication and effectiveness.

4.1 Summary of Cost Expenditures – 2010 – 2012

FEI proposed a budget and strategy in the Biomethane Application to achieve the targeted demand and customer awareness. The 2010-2011 budget combined was $400 thousand.

In 2011, the education costs were focused on generating awareness of RNG as a renewable energy and its availability today. FEI's resources were focused on outreach at community events, informational videos, targeted online advertisements, and bill inserts to all FEI residential customers. In addition, FEI invested in the development of event materials, further research, and print materials. FEI spent just under its $400 thousand budget, at approximately $386 thousand.

The table below shows the approved customer education budget for the 2010/2011 time period and the actuals spent during this time.

Table 4-1: 2010/ 2011 RNG Offering Education Expenditures

	2010 / 2011 BUDGET	2010 / 2011 ACTUALS
Media		
Targeted print & online communications	$ 220,000	$ 150,036
Direct marketing	$ 20,000	$ 12,790
Radio		$ 28,441
	$ 240,000	$ 191,267
Production		
Print communications (incl. bill insert)	$ 40,000	$ 19,953
Event materials (incl. booth signage)	$ 5,000	$ 28,770
Quarterly email newsletter	$ 20,000	
Video	$ 20,000	$ 39,799
	$ 85,000	$ 88,522
Promotions / Events		
Partnerships and Events		$ 35,332
Research and Promotions	$ 75,000	$ 70,465
	$ 75,000	$ 105,798
Total	$ 400,000	$ 385,586

In the 2012-2013 Revenue Requirements and Rates Application, FEI applied for and received approval of a customer education expenditure of $300 thousand for 2012 and $306 thousand in

2013 for the RNG Offering.[4] As shown in the table below, FEI anticipates spending just under $300,000.

Table 4-2: 2012 Biomethane Education Summary

	2012 BUDGET	2012 Forecasted Actuals
Media		
Targeted print & online communications	$ 185,000	$ 65,000
Direct marketing	$ 20,000	$ 36,059
Radio		$ 60,000
	$ 205,000	$ 161,059
Production		
Print communications (incl. bill insert)	$ 40,000	$ 36,657
Event materials (incl. booth signage)	$ 5,000	$ 5,373
	$ 45,000	$ 42,030
Promotions / Events		
Partnerships and Events	$ 50,000	$ 30,765
Promotions (Airmiles and Customer Videos)		$ 63,118
	$ 50,000	$ 93,883
Total	$ 300,000	$ 296,972

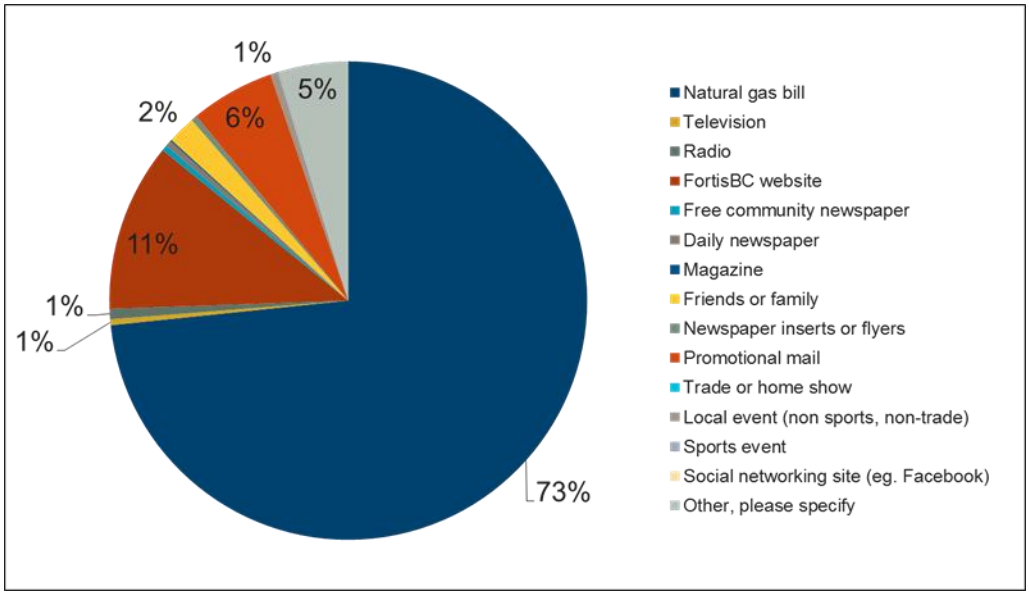
For 2013 and future years, customer education will be an ongoing activity closely aligned with customer familiarity. FEI's goal is to ensure customer groups who have access to the program are sufficiently aware of it and are able to make an informed decision as to whether or not they wish to participate.

4.2 Residential Customer Education

FEI's communication strategy during the two year period has been to educate customers with details about the RNG offering and motivate them to participate in the program. In the residential segment, the messaging used to date has been to first educate customers about Biomethane (called renewable natural gas or RNG in customer education channels) and then encourage them to participate in the program. There has been an integrated customer education plan that includes radio, local papers, online ads, bill inserts and a recent partnership with AIR MILES. As shown below in Figure 4-1, the most effective communication channel to reach residential customers has been FEI's bill inserts.

[4] FEU 2012-2013 Revenue Requirements and Rates Decision, dated April 12, 2012, Page 99
http://www.bcuc.com/Documents/Proceedings/2012/DOC_30355_04-12-2012-FEU-2012-13RR-Decision-WEB.pdf

Figure 4-1: Residential Survey to Existing RNG Customers - 856 Respondents
Where did you first hear about FortisBC's renewable natural gas?



By the end of 2011, FEI had 1,088 residential customers enrolled in the program. As of December 12, 2012, enrolment has grown by over 400 percent to 4,693 residential customers, showing an increase in awareness and support for the RNG Offering. FEI has found, however, that it takes multiple contacts and continued awareness of the initiative in order to motivate customers to take action to follow through on their support.

4.3 Commercial Customer Education

For commercial customers, the key success factor has been targeting businesses that are leaders in sustainability and providing recognition to organizations that sign up for the RNG Offering. Organizations that sign up are featured as Green Leader businesses on FEI's website, are provided decals (printed and digital) they can use to display at their business, receive tweets about their participation in the RNG Offering and are featured in a Thank You ad once per year. FEI featured early adopters in customer education promotions to encourage other businesses in similar industries to sign up, which has been an effective way to gain businesses' interest.

For commercial customers, the most effective channels so far have been direct sales and bill inserts.

Please refer to Exhibit B-1, Section 3.6 for more details on customer feedback and quotes from residential and commercial customers demonstrating support and interest in the program.

4.4 Conclusions regarding Costs and Assessment of Customer Education

Customer education is on budget, and will continue to be an area that FEI will monitor closely. FEI will address ongoing customer education budget needs through the FEI's future Revenue Requirement Applications. FEI has learned that bill inserts continue to be the most effective means of reaching our target audience and motivate them to take action. Over the test period, FEI utilized mass media, bill inserts, videos, direct mail, promotional offers, news releases, consumer shows, and the FEI website, as proposed in the education plan in the 2010 Biomethane Application. FEI will continue to generate awareness of the Biomethane Program through an integrated marketing approach to achieve the 2 percent participation rate in the next five years. FEI has also learned that there is a large secondary market that needs something more than environmental benefits to take part in the program and that Air Miles has proven to be a success in reaching this group of customers.

5 ENROLMENT AND ATTRITION RATES

During the six months the program was active in 2011, the program saw 1,158 residential customer enrolments. As of December 1, 2012 the program had enrolled an additional 3,764 residential customers, 72 commercial customers and 3 on-system sales customers. As discussed in Section 3.1 above, residential participation rates are ramping up at a slightly slower than expected rate, but are trending towards the industry median for green pricing programs in North America of 1 percent.

FEI experienced a 6 percent and 7.6 percent drop rate in 2011 and 2012, respectively. In order to properly determine attrition rates, one must determine whether dropped customers represent customer actually moving back to the standard rate, or customers that have moved, transferred accounts, or disconnected. Based on a sample of 175 dropped accounts, only 20 percent of those accounts sampled requested to be removed from the RNG Offering. The other drops were predominantly a result of a customer moving. Given this information, FEI believes an attrition rate of 1 percent in 2011 and 1.5 percent in 2012 more accurately portrays the true attrition rate of the program, i.e. those that returned back to the standard rate. FEI has therefore used these drop rates in its future forecasts. In both scenarios the RNG Offerings attrition rate is well below the 2010 industry average of a 7 percent drop rate of other green pricing programs, described in further detail in Exhibit B-1, Appendix F-1.

5.1 Conclusions on Enrolment and Attrition Rates

FEI's market research has been tested and the results show enrolments are following established industry trends, while attrition rates are below the industry average.

6 CUSTOMER DEMAND FORECAST FOR NEXT TEN YEAR PERIOD

Given the market traction to date and emerging market opportunities in BC, there continues to be great growth potential for the RNG Offering. FEI has developed a low, moderate and high demand scenario for the next 10 years. In absence of historical trends in BC for similar renewable energy programs, FEI has relied on the following in order to develop a long range demand forecast for Biomethane:

- Secondary Research: analysis of similar programs across North America and their adoption rates
- Primary Research: input from BC residential customers
- Letters of Intent from Emerging Markets: input from large volume customers in BC to demonstrate potential uptake

Please refer to Exhibit B-1, Section 4 of the Application for additional details on each of these inputs as well as the methodology and assumptions used to develop a 10 year Biomethane demand forecast. Export volumes have not been included in these forecasts.

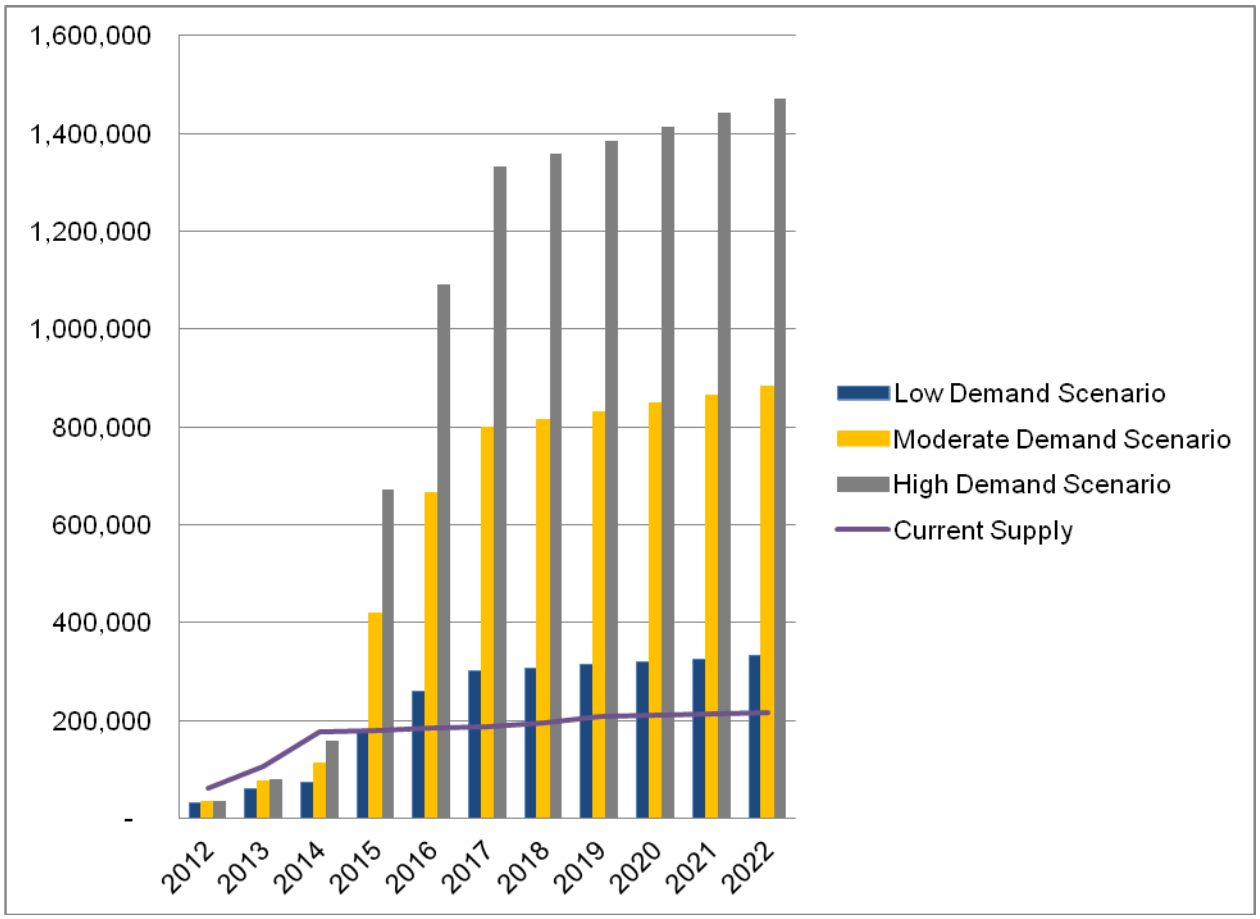
In each of the three forecast scenarios, the potential demand outstrips supply from existing supply projects, including the Kelowna landfill, beyond 2015, as shown below in Figure 6-1. The moderate forecast itself is very conservative, and based on this information alone, it is apparent that FEI will need to bring on new Biomethane supply to meet this demand forecast. Exhibit B-1, Section 7 explores how FEI intends to meet customer demand.

Each scenario and the corresponding assumptions are described in Table 6-1 below and are expanded upon in Exhibit B-1, Section 4.5.

Table 6-1: Assumptions used for Demand Scenarios

	Rate Schedule 1-3B	Rate Schedule 11B	Emerging Markets	Annual Demand (GJ) by 2017
Low Scenario	1% Customer Participation by 2017	10% annual growth	10% capture rate	301,047
Moderate Scenario	2.1% Customer Participation by 2017	30% annual growth	30% capture rate	799,582
High Scenario	2.1% Customer Participation by 2017	50% annual growth	50% capture rate	1,332,314

Figure 6-1: 10 Year Demand Forecast 2012 – 2022



Notes: The general assumptions used in the forecasts above are as follows:

- 10% of FEI Rate Schedule 1 customers and 18% of FEI Rate Schedule 2-3 customers would not be eligible to sign-up for RNG Offering as they are currently with a Gas Marketer.
- 2011 average use rates have been assumed for rates 1, 2 & 3 customers to estimate the 10% annual consumption.
- For Rate Schedules 1B, 2B, and 3B, volumes are based on the currently approved 10% blend of Biomethane.
- Due to variability in timing of customer enrolments and seasonality, FEI has assumed that all incremental customers (Rate Schedules 1B, 2B, and 3B) will only use 50% of their expected volumes in the first year of enrolment.
- The eligible customer growth rates are in line with FEI's projections used in long term resource planning.
- For on system sales demand (Rate Schedule 11B), FEI has used a growth factor of 10%, 30% and 50% for Low, Expected and High case scenarios, respectively. FEI has applied the growth factors for each scenario to the reference case based on 2012 actuals.
- FEI will open the Biomethane tariff to FEVI customers from 2015 onwards through the proposed rate amalgamation (application currently in front of BCUC).
- As the forecast period increases, so do the levels of uncertainty. Beyond 2017, FEI has applied a growth factor of 2% across all customer group volumes.

- For the emerging markets in BC, FEI has made forecast assumptions based on the customers that have provided a LOI with expected volumes. For forecasting purposes only, FEI has made separate categories for Cogen and Natural Gas for Transportation while recognizing that such customers could come under rate 11B or 30B depending on the commercial arrangements.
- The demand forecast does not take into consideration the export market. While FEI believes this market shows a large market potential, FEI is committed to selling Biomethane within BC first.
- The demand forecast scenarios do not take into consideration the impact from offering multiple blends.

6.1 Conclusions regarding Customer Demand Forecast for the Next Ten Year Period

Given the market traction to date and emerging market opportunities in BC as described in Exhibit B-1, Section 4, FEI is confident that the projected demand will exceed existing approved supply volumes and additional supply will be required to meet this potential demand. Using the methodology and assumptions described in Exhibit B-1, Section 4 to develop the long-range demand forecast scenarios is appropriate and reasonable as this incorporates industry research, primary research and letters of intent from the emerging markets.

7 FINANCIAL REVIEW OF ALL PROJECTS UNDERTAKEN AND 10 YEAR SUPPLY FORECAST

FEI has had the opportunity to work through two projects and begin a third project during the test period. During that time, FEI found that the supply business model is working as contemplated in the 2010 Biomethane Application. FEI has demonstrated that biomethane can be safely delivered to the existing distribution system and the operation of biomethane facilities can be integrated into its operations safely. There were a few challenges as expected with the first two projects, but FEI will incorporate the lessons learned from these challenges into future projects.

This section provides a high-level summary of the following projects, including key contract terms and a status update:[5]

- Fraser Valley Biogas Project (Catalyst)
- CSRD (Salmon Arm Landfill) and;
- City of Kelowna Landfill

This section then provides a financial summary for the projects, including program operating and maintenance costs and capital costs for interconnection facilities. This is followed by a description of the potential Biomethane supply in BC. for the next 10 years.

7.1 Fraser Valley Biogas Project

Fraser Valley Biogas owns and operates an on-farm digester biogas facility located in Abbotsford, BC at 2016 Interprovincial Highway. The facility produces biogas primarily from dairy cattle waste, chicken manure and waste received from a local poultry processing facility. The biogas is purified using a water-wash based upgrader plant that was supplied by Greenlane Biogas North America and Biomethane is delivered above distribution pressure to FEI on-site.

Under the terms of the supply agreement, FEI designed and installed an interconnect facility on the northeast corner of the Fraser Valley Biogas property and interconnecting piping. The FEI interconnect facilities regulate the pressure, monitor gas composition, measure flow and odorize the Biomethane before being injecting into the newly constructed interconnection pipeline.

FEI originally entered into a ten-year Biomethane purchase agreement with Catalyst Power Inc. effective October 28, 2010. The Catalyst project began supplying Biomethane to FEI in September 2010. However, during 2011, Catalyst was forced to restructure due to financial stress and the project assets were subsequently bought by Fraser Valley Biogas. Fraser Valley Biogas then negotiated a new agreement with FEI. The agreement with Fraser Valley Biogas is for a term of ten years, effective upon receipt of BCUC approval which was received on 23,

[5] Additional details on lessons learned, individual project description and current agreements are provided in Exhibit B-1, Section 5.

March 2012 (BCUC Order No. E-7-12). This agreement replaced the original agreement with Catalyst Power Inc.

Key data regarding the Fraser Valley Biogas project are highlighted in Table 7-1 below.

Table 7-1: Fraser Valley Biogas Project Highlights

Item	Amount	Comment
Energy	64,000 GJ/year	Expected
	91,250 GJ/year	Maximum
Contract Term	10 Year	Expires 1st November 2022
Start date (first gas delivery)	23rd March 2012	
Total Capital (FVB)		Confidential
Capital (FEI)	$0.07 Million	Connection to main
	$0.43 Million	Interconnect (Measure, monitor, odorize)
TOTAL Capital FEI	$0.50 Million	

PROJECT STATUS

Since taking over the facility in March 2012, Fraser Valley Biogas has been able to increase production volume. The facility continues to run consistently and to meet the Biomethane specification. The delivered volumes of gas to date (December 1st 2012) and projected volume to the end of the year are included below in Table 7-2.

Table 7-2: Fraser Valley Biogas Actual Biomethane Volume

Year	Actual (TJ)	Forecast (TJ)	Comment
2010	6.0	42.0	First gas delivered 27th September, 2010
2011	41.0	91.0	
2012	52.8	60	Volume is to date 1st December, 2012

In this case, FEI is purchasing Biomethane and does not own or operate the upgrader plant. Therefore, FEI's primary operating responsibility is for the interconnect facility. FEI has fully integrated the interconnection facility into its regular operations. It is being operated and maintained in the same manner as pressure regulating stations. The interconnect facility automatically monitors key parameters and 'shuts in' the Biomethane supply if the gas quality does not meet the required specification. FEI also has remote access to key parameters such as flow, pressure, methane content and hydrogen sulphide content. The design is operating as predicted and FEI has based future interconnection facility designs on this station.

The capital costs for interconnection equipment will be discussed further below in Section 7.5.

7.2 Columbia Shuswap Regional District (Salmon Arm Landfill) Project

The Columbia Shuswap Regional District ("CSRD") owns and operates a landfill located in Salmon Arm, BC. The landfill receives mixed waste from the surrounding region and it has a projected active life of approximately 70 years. The CSRD also approached FEI to explore a partnership opportunity at the landfill to utilize captured landfill gas as Biomethane. A raw landfill gas purchase agreement between FEI and the CSRD was reached in 2010.

Under the terms of the agreement, FEI is responsible for an upgrader, for the interconnect facility and for the connecting pipeline to the existing distribution network.

FEI chose Xebec Inc. to supply the upgrader plant for this project. Xebec designed, manufactured and commissioned the plant at the Salmon Arm Landfill.

FEI designed and installed an interconnect facility on the landfill property adjacent to the CSRD collection system and flare. The FEI interconnect facilities regulate the pressure, monitor gas composition, measure flow and odorize the Biomethane before injecting into the newly constructed interconnection pipeline. The pipeline to connect to the distribution system is approximately 700 m of 114mm PE piping connecting the interconnection facility with existing 114mm main on 20th Ave immediately adjacent to the landfill entrance.

Key data regarding this project are highlighted in Table 7-3 below.

Table 7-3: Salmon Arm Landfill Biogas Project Highlights

Item	Amount	Comment
Energy	20,000 GJ/year	Expected YR1 to YR5, Increase in steps over time to reach approximately 40,000 GJ/ year in 2025
	40,000 GJ/year	Maximum
Contract Term	15 Year	
Start date (first gas delivery)	15 Dec 2012	Projected date. Currently producing Biomethane but not injecting
Capital (FEI) - Interconnect	$0.03 Million	Connection to main
	$0.48 Million	Interconnect (Measure, monitor, odorize)
TOTAL Capital FEI - Interconnect	$0.51 Million	

PROJECT STATUS

The upgrader plant arrived on site on September 19, 2012 and it was installed immediately after arrival. Commissioning activities such as media filling and control checks began in October 2012. FEI first demonstrated pipeline quality Biomethane during the first week of November 2012. By the time of filing Exhibit B-1, FEI had successfully demonstrated that the plant at the landfill can produce pipeline quality Biomethane. FEI will continue to test the upgrader on-site and begin injecting Biomethane in January 2013, as noted in Table 7-4 below.

Table 7-4: Salmon Arm Landfill Actual Biomethane Volume

Year	Actual (TJ)	Forecast (TJ)	Comment
2012	0.0	15.0	Currently testing, scheduled for injection Jan 2013

FEI is currently negotiating a service and training contract with Xebec for the first year of operation. FEI expects to have Xebec available for on-site maintenance periodically during the year working alongside FEI staff. Xebec will also provide plant monitoring services for at least a year to establish a baseline for future operation.

Like the Fraser Valley Biogas Plant, FEI will fully integrate the interconnection facility into its regular operations. It is being operated and maintained in the same manner as pressure regulating stations. The interconnect facility automatically monitors key parameters and 'shuts in' the Biomethane supply if the gas quality does not meet the required specification. FEI also has remote access to key parameters such as flow, pressure, methane content and hydrogen sulphide content. FEI believes that the design is intending as predicted and has based future interconnection facility design on this station.

COST OF SALMON ARM LANDFILL UPGRADER

The capital cost of the Salmon Arm Landfill Upgrader is expected to be closed from Work-in-Progress and charged to Gas Plant in Service by the end of January 2013. The following table shows a summary of the projected cost of the upgrader and the forecasted cost of the upgrader from the 2010 Biomethane Application.

Table 7-5: Salmon Arm Project Financial Summary

	$000's		
	Biomethane Application Costs Jun 2010	Reported AES Inquiry Nov 2011	Projected Jan 2013
Cost of Connecting Pipeline	$ 45.1	$ 45.1	$ 33.6
Other Interconnection Facilities	$ 637.5	$ 649.0	$ 474.3
Total Interconnection Costs	$ 682.6	$ 694.1	$ 507.9
Upgrader	$ 1,621.8	$ 1,934.0	$ 2,366.9
CIAC	$ 515.6	$ 566.0	$ 566.0

Since the 2010 Biomethane Application, FEI reported the financial results of this project in the 2012-2013 Revenue Requirements and Rates Application Appendix J[6] and in the AES Inquiry (BCUC IR 1.27.1, which also refers to BCUC IR 1.188.1 in the 2012-2013 Revenue Requirements and Rates Application). Since that time, FEI has continued to spend on the project and the updated final project costs can be seen above in Table 7-5. There are two items of note related to the figures in the table.

[6] See Exhibit B-1, Appendix B-1.

First, the cost of the interconnect facilities has been adjusted downwards and the cost of the upgrader has been adjusted upwards. FEI determined that certain on-site charges during the installation of the upgrader were incorrectly booked to the interconnection facilities by field personnel. FEI has adjusted the amount based upon the arrival time of the upgrader to the site at Salmon Arm. This resulted in a net increase in the costs associated with the upgrader.

In addition to an adjustment to the charges, the costs associated with the upgrader have inflated since the beginning of the project. The inflation was due to two items:

- A design change accounting for approximately $499,000 or an increase in the overall budget of approximately $300,000 (filed in 2012 – 2013 Revenue Requirements and Rates Application Appendix J).
- Higher than expected installation and integration costs incurred at site. This was a result of higher than expected costs to connect Xebec equipment to FEI equipment. In addition, the supplier Xebec suffered financially during the previous year and as a result had very high staff turnover. This resulted in higher than expected time required to commission the plant and multiple periods of inactivity. The "start and stop" nature of the site work forced FEI to incur larger than expected mobilization/demobilization and travel costs.

Second, in the 2010 Biomethane Application, the Contributions in Aid of Construction ("CIAC") was incorrectly stated as $515.6 thousand. The correct amount is $566 thousand. The CIAC represents the sum of a government grant from Innovative Clean Energy ("ICE") in the amount of $366 thousand and $200 thousand received from the BC Bioenergy Network. The first milestone payment for the ICE grant was mistakenly applied to the wrong project and has since been corrected. The final cost of the biomethane which is a combination of the landfill gas cost and the cost of service of the upgrading plant are expected to remain under the BCUC-approved Maximum price.

Taking into account the above, the total net cost is projected to be approximately $695 thousand higher than the forecast costs from the 2010 Biomethane Application.

The capital costs for interconnection equipment are summarized below in Section 7.5.

7.3 City of Kelowna Landfill Project

The City of Kelowna owns and operates a landfill located within the city limits located north of the downtown core. The landfill receives mixed waste primarily from the city and it has a projected active life of more than 20 years. The City of Kelowna has been capturing and flaring LFG for several years. In early 2010, the City of Kelowna approached FEI to explore partnership opportunity at the landfill to utilize captured landfill gas as Biomethane. An agreement was reached in 2012 and accepted by the Commission on October 23, 2012 (Order No. E-19-12). FEI expects to see approximately 60,000 GJ in the first full year of operation and an average volume of approximately 88,000 GJ per year over the full term of the contract. The

potential maximum volume is approximately 117,000 GJ per year which should be reached in about ten to fifteen years.

Key data regarding this project are highlighted in Table 7-6 below.

Table 7-6: City of Kelowna Landfill Biogas Project Highlights

Item	Amount	Comment
Energy	60,000 GJ/year	Expected YR1, Increase in steps over time to reach approximately 118,000 GJ/ year in 2025
	118,000 GJ/year	Maximum
Contract Term	15 Year	
Start date (first gas delivery)	1 Nov 2013	Projected date
Capital (FEI) - Interconnect	$0.45 Million	Connection to main
	$0.67 Million	Interconnect (Measure, monitor, odorize)
TOTAL Capital FEI - Interconnect	$1.12 Million	

PROJECT STATUS

A feasibility study was completed in 2011 and FEI applied to the BCUC for acceptance of the contract in May 2012. The project agreement was accepted by the BCUC on October 23, 2012.[7] Design work will begin in November 2012 and the in-service date is Q4 of 2013.

7.4 Program Operating and Maintenance Costs for 2012 and Onwards

The ongoing operating and maintenance costs for the interconnection facilities are expected to be approximately $10 thousand per supply point. This means that once the first three supply points are providing Biomethane (expected at the end of 2013), the forecast O&M for interconnection facilities will be approximately $30 thousand annually. The costs in any given year will be dependent on the required activity, but would follow general inflation rates in the future.

The operating budget for interconnection facilities includes odourant costs, station and meter set inspection and repairs, H_2S analyzer and gas chromatograph maintenance and gas quality testing.

The forecast cost for customer education and the Biomethane Program Manager as approved in the 2012/2013 Revenue Requirements and Rates Application is $402 thousand annually. Please see Exhibit B-1 Section 3.7.

[7] BCUC Order No. E-19-12.

7.5 Capital Costs of Interconnection Facilities

The direct costs (total capital costs of the interconnect facilities for the projects excluding AFUDC and capitalized overhead) for the two projects accepted by the Commission in Order No. G-194-10 and the City of Kelowna Landfill project which was recently accepted by the Commission on October 23, 2012 (Commission Order No. E-19-12), are provided in the following table.

Table 7-7: Capital Costs of Interconnect Facilities (excludes AFUDC and Overhead Capitalized)

	$000's		
Particulars	Fraser Valley Biogas	Salmon Arm Landfill	Kelowna Landfill Gas
Year in Service	2010	2013	2013
472 Structures	$ 134	$ 32	$ 81
474 Regulator & Meter Installation	21	-	-
475 Mains	73	34	452
477 Mesuring & Regulating Equipment	269	439	576
478 Meter	7	4	8
Total Direct Costs	$ 504	$ 509	$ 1,117

The actual / projected costs for the Fraser Valley Biogas and Salmon Arm Landfill which total $1.013 million is expected to be approximately $257 thousand less than forecasted in the 2010 Biomethane Application and in the 2012 -2013 Revenue Requirements and Rates Application. A comparison of the total interconnect capital cost for these two projects to the Biomethane Application and the 2012-2013 Revenue Requirements and Rates Application is included in Table 7-8 below.

Table 7-8: Interconnect Capital Costs for Fraser Valley Biogas & Salmon Arm Landfill

	$000's		
	Fraser Valley Biogas & Salmon Arm Landfill		
Particulars	Actual / Projected	Biomethane Appl'n [1]	FEU 2012 - 2013 RRA [2]
Mains	$ 107	$ 273	$ 120
Measuring & Regulating, Odourizer, Gas Analyzer et al	906	998	1,150
Total Direct Costs	$ 1,013	$ 1,271	$ 1,270

1. FortisBC Energy Inc. (formerly Terasen Gas Inc.) Biomethane Application, Appendix J-2, Schedule 1, Lines 17-20.
2. FEU 2012-2013 Revenue Requirements and Rates Application, Volume 2, Appendix J, Page 6, Table J-1

7.6 Size of Supply in British Columbia

This section provides an overview of supply potential in BC. FEI has updated its ten-year supply forecast using known prospects as a basis for the next five years. However, for the time frame beyond five years, FEI does not have a good reason to change its original estimates.

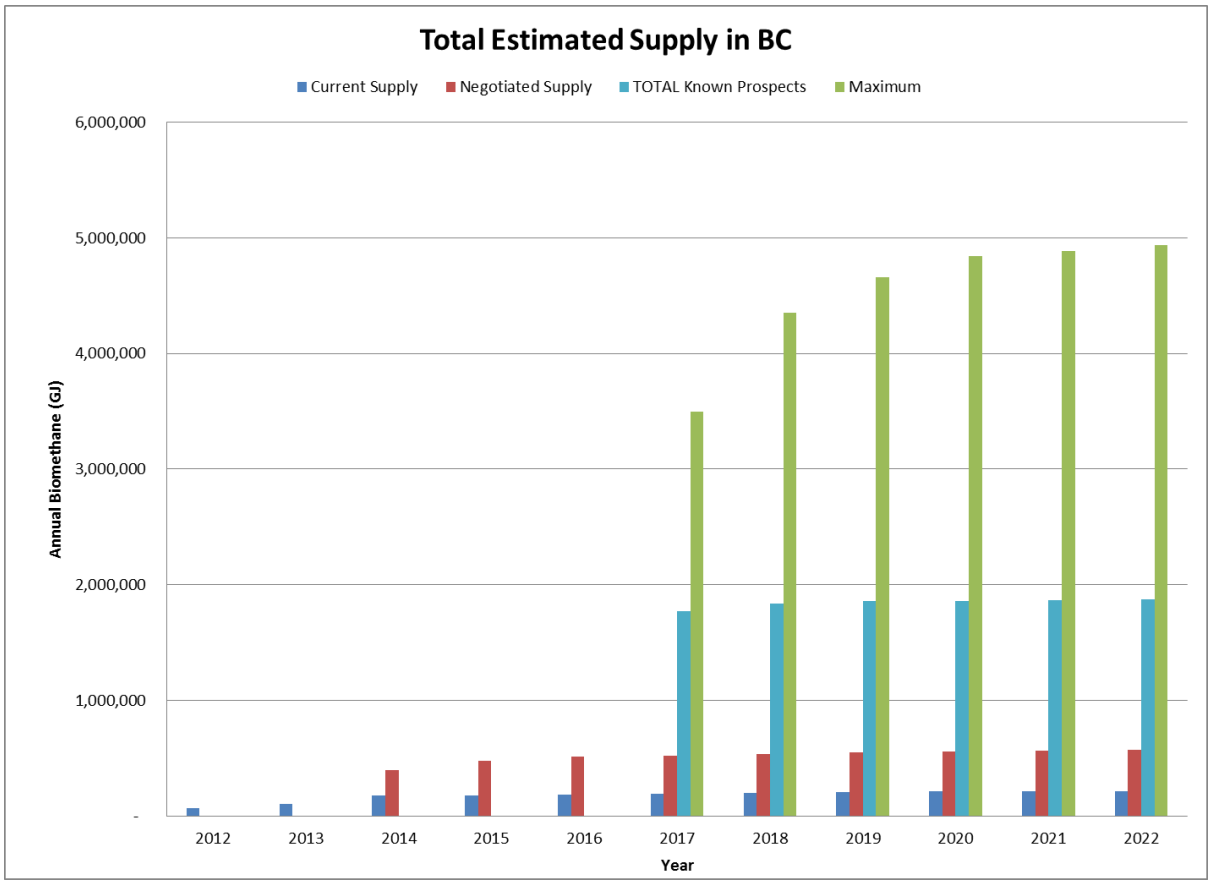
TEN-YEAR BIOMETHANE SUPPLY FORECAST

FEI has revisited its initial ten-year forecast of Biomethane supply in BC and refined its assumptions based upon experience in the market over the last two years. The refined supply estimate is based upon the known size of current supply, proposed supply and known prospects. The 10-year maximum is based upon the original 10-year maximum forecast presented in the 2010 Biomethane Application. The original maximum was an estimate based upon a portion of the total amount of organics available in BC, which remains valid today.

The graph below indicates the estimated total amount of Biomethane that could be available in a given year. Each category is cumulative and it includes Biomethane that is already available. For example, the "Negotiated Supply" volume includes the "Current Supply" volume. The categories in Figure 7-1 below can be summarized in the as follows:

- Current Supply: This category includes Fraser Valley Biogas, Salmon Arm Landfill and the City of Kelowna Landfill
- Negotiated Supply: This includes current supply and four projects proposed later in this application – Earth Renu, Metro Vancouver Lulu Island Plant, Seabreeze Farms and Dicklands Farms. These projects are discussed in detail in Exhibit B-1, Section 7.
- Total Known Prospects: This includes current supply, negotiated supply, City of Vancouver Landfill, City of Surrey and other known prospects. For information regarding these known prospects, see Exhibit B-1, Section 7.
- Maximum: This is a top down estimate based upon the total available biomass in BC. It includes the three categories above.

Figure 7-1: 10 Year Range of Estimated Biomethane Supply



The total volumes by year may vary significantly in the future because the timing of the supply is difficult to determine due to the uncertainty in time it may take to secure supply contracts, timing of demand and timing of government policy. In the case of supply contracts, FEI has experienced a range of time required for feasibility analysis and negotiation. Longer periods of evaluation and negotiation can shift total supply volumes to later years.

FEI will continue to balance supply and demand. In the event that demand grows quickly, FEI may attempt to accelerate supply development by engaging developers in a supply call. In the event that demand grows slowly, FEI may delay entering into new supply contracts.

7.7 Conclusions on Financial Review of all Projects and 10-Year Supply Forecast

FEI has gained valuable experience and knowledge from the first two approved supply projects and is incorporating the learnings into future projects. The Fraser Valley Biogas Plant is already injecting supply, and the Salmon Arm Landfill is producing pipeline quality gas and will soon be injecting supply into the grid and fully integrated with our regular operations.

FEI's actual interconnect costs for existing projects came in less than the budgeted amount, but the upgrader cost for the Salmon Arm landfill project came in higher than anticipated. The net

cost at Salmon Arm landfill is projected to be approximately $695 thousand higher than the forecast costs in the 2010 Biomethane Application.

From the challenges experienced with the existing projects, FEI has learned valuable lessons. Based on its experience with Catalyst Power Inc. project (now owned by Fraser Valley Biogas) FEI now strongly advocates for independent gas volume estimates from reputable third parties and FEI staff have undertaken training to better understand biogas production. The result is that FEI can better test the volume and cost assumptions that project developers share during the feasibility stage of new project assessment. (See Section 5.1.2 of the Application for further information.) Based on its experience with the Salmon Arm Landfill project, FEI has taken a number of steps to improve confidence in a vendor's ability to deliver on time and on budget for projects where FEI will own the upgrader facilities. These include steps to increase confident in in the gas composition and a bid evaluation procedure to select the most appropriate vendor. FEI will incorporate these learnings and will budget accordingly for future projects.

FEI estimates that the maximum available biomethane supply that could be developed in BC by 2020 is approximately 5 PJ. In the near term FEI will need to develop additional supply to meet customer demand.

8 FUTURE SUPPLY PROJECTS

This section will discuss future supply projects that FEI is developing to meet the future potential demand as explained in Section 6. The future supply can be categorized into three basic categories: negotiated supply, known prospects and unknown prospects. Each of these categories are discussed below.

8.1 Negotiated Supply

FEI entered into contracts with suppliers in order to provide a measure of biomethane supply certainty for its potential large volume customers. FEI has negotiated supply agreements with the following entities:

- EarthRenu Energy Corp. ("Earth Renu")
- Greater Vancouver Sewerage and Drainage District ("Metro Vancouver")
- Seabreeze Farm Ltd. ("Seabreeze")
- Dicklands Farms ("Dicklands")

The total additional Biomethane supply from these projects is estimated to be 330,000 GJ annually with a total contracted maximum of 385,000 GJ. For each of the four projects described below, the project partners chose to own the upgrading facilities and enter into Biomethane purchase agreements with FEI.

The four proposed projects are located within the Greater Vancouver area. Each project has a different owner. As indicated above, a common characteristic of each of these contracts is that FEI will not own or operate upgrading equipment. Therefore, FEI is entering into Biomethane supply agreements in each case. All of the projects are digester-based projects (two farm, one commercial and one wastewater treatment plant).

The sections following will provide a summary of these projects. For additional detail on the projects, refer to Exhibit B-1, Section 7.

EARTH RENU PROJECT

Earth Renu is building a new facility that will accept organic waste from local commercial and industrial clients for the purpose of destruction and energy production. Earth Renu will design, build and install a complete facility that will accept up to approximately 60,000 tonnes per year of organic waste and generate the equivalent of approximately 200,000 GJ/year of Biomethane.

For this project, Earth Renu will be responsible for all aspects of raw biogas production and purification. FEI will enter into a Biomethane purchase agreement and provide interconnection facilities.

Key data regarding this project are highlighted in Table 8-1.

Table 8-1: Earth Renu Project Highlights

Item	Amount	Comment
Energy	200,000 GJ/year	Expected
	205,000 GJ/year	Maximum
Contract Term	Meets Criteria	Confidential
Start date (first gas delivery)	2014	No earlier than October 2013 (in Agreement)
Total Capital (Earth Renu)		Confidential
FEI Capital ($000s)	$785.9	

METRO VANCOUVER PROJECT

Metro Vancouver owns and operates the Lulu Island Wastewater Treatment Plant (the "Lulu Island Plant") located in Richmond, BC. Currently, Metro Vancouver recovers raw biogas from digesters on-site and uses that gas for heating the digestion process. For the proposed project, a portion of the biogas from the Lulu Island Plant will be directed from digesters on-site to an upgrading plant where it will be purified and injected as Biomethane into the FEI system. The Biomethane purchase agreement contracts FEI to purchase up to a maximum of 40,000 GJ from Metro Vancouver annually, and provide interconnection facilities.

Key data regarding this project is included in Table 8-2 below.

Table 8-2: Metro Vancouver Lulu Island Project Highlights

Item	Amount	Comment
Energy	40,000 GJ/year	Maximum purchased
Contract Term	Meets Criteria	Confidential
Start date (first gas delivery)	2014	
Total Capital (Metrovan)	$13.1 Million	
FEI Capital ($000s)	$739.2	

SEABREEZE FARMS PROJECT

Seabreeze is an existing dairy farm located in Delta, BC. As part of a plan to diversify its business and become a better steward of its land, Seabreeze intends to develop a renewable energy project. Seabreeze plans to build an anaerobic digester and direct biogas to an upgrading plant using existing cow manure and locally sourced clean organic waste. The proposed project is expected to generate approximately 45,000 GJ/year of Biomethane.

For this project, Seabreeze will be responsible for all aspects of raw biogas production and purification. FEI will enter into a Biomethane purchase agreement and provide interconnection facilities.

The key data regarding this project are as follows:

Table 8-3: Seabreeze Farms Project Highlights

Item	Amount	Comment
Energy	45,000 GJ/year	Expected
	70,000 GJ/year	Maximum
Contract Term	Meets Criteria	Confidential
Start date (first gas delivery)	Q4 2013	No earlier than October 2013 (in Agreement)
Total Capital Seabreeze		Confidential
FEI Capital ($000s)	$1,188.7	

DICKLANDS PROJECT

Dicklands is an existing dairy farm. Dicklands recently purchased land adjacent to its existing operation and intends to expand its milking herd. As part of a plan to diversify its business and to manage the expected additional manure from more milking cows, Dicklands intends to develop a renewable energy project. Dicklands will build an anaerobic digester and purification facility using existing cow manure. In order to increase biogas production, Dicklands also intends to source additional clean organic waste. The proposed project is expected to generate approximately 45,000 GJ/year of Biomethane. This volume was an estimate provided by CHFour Biogas, a known expert in biogas project development, on behalf of Dicklands.

For this project, Dicklands will be responsible for all aspects of raw biogas production and purification. FEI will enter into a Biomethane purchase agreement and provide interconnection facilities.

The key data regarding this project is as follows:

Table 8-4: Dicklands Farms Project Highlights

Item	Amount	Comment
Energy	45,000 GJ/year	Expected
	70,000 GJ/year	Maximum
Start date (first gas delivery)	2014	No earlier than October 2013 (in Agreement)
Total Capital (Dicklands)	$5 Million	Estimated
FEI Capital ($000s)	$1,013.8	

KNOWN PROSPECTS

Large Biomethane Supply Projects

FEI has identified two projects which it considers significant with respect to future supply volumes.

The first project is proposed by the City of Vancouver, which intends to partner with a competent developer to design build and operate a landfill gas utilization facility at its Delta Landfill. The City of Vancouver issued a public Request for Expression of Interest on April 25, 2012 and FEI responded to it on June 5, 2012. Currently, the City of Vancouver is evaluating proposals and has initiated additional discussions with FEI. The City of Vancouver has not made a final selection on its partner, but has indicated a strong interest in the proposal provided by FEI. The project could supply approximately 200,000 GJ annually and grow to as much as 500,000 GJ annually in ten to fifteen years.

The City of Surrey has also publicly announced its plans to develop a bioenergy facility utilizing diverted organic waste from its residents[8]. The City of Surrey will issue a public request for proposals for a project that is expected to generate as much as 400,000 GJ of energy annually. At this time FEI has not made a formal proposal, but has identified this project as an opportunity to secure additional Biomethane supply.

At this time, FEI has not negotiated supply agreements with either of these potential biomethane supply projects. These two projects do indicate, however, that FEI could add significant volumes of biomethane supply in the future to meet potential demand.

Other Projects

Additional projects have either been identified through discussions with regional government (in the case of landfills) and independent project developers, including farmers. At this time FEI has identified five projects that could provide an estimated 295,000 GJ annually.

UNKNOWN PROSPECTS

Based upon the total amount of biomethane supply potentially available, it is likely that there will be additional projects developed. These future projects may not occur, but based on experience to date, it is likely that the opportunity for projects will be seized by developers provided that the Biomethane Program continues. FEI has seen new project developers come forward over the past two years and expects to see more. However, at this time, these projects cannot be named.

8.2 Conclusions regarding Future Supply Projects

As demonstrated from the four negotiated supply agreements and other known prospects, there are ample supply projects to develop in the short term and the potential to provide up to an estimated 5.0 PJ of biomethane.

[8] http://www.surrey.ca/city-government/12260.aspx

9 ASSESSMENT OF PRICING METHODOLOGY AND PRINCIPLES OF COST RECOVERY

In the 2010 Biomethane Application, FEI proposed general cost recovery principles, a description of the costs to be incurred, and the associated accounting treatment. In the 2010 Biomethane Decision, the BCUC accepted the cost recovery principles as just and reasonable for the two year test period and requested that FEI include in its PIR an assessment of the cost recovery mechanisms. In this section, FEI addresses the recovery of costs from the various customer groups and proposes that the existing cost allocation, accounting treatment and rate setting for the Biomethane Program be continued.

The costs associated with the Biomethane Program fall into two main categories. The first category consists of the costs associated with making the Biomethane Program available to all customers. Costs in this category are incurred to extend the environmental benefits of biomethane to all customers, and are recovered through delivery rates from all non-bypass customers. The second category consists of the costs associated with providing the supply of biomethane to those customers that have elected to enroll in a biomethane rate offering, and are recovered from those customers by the Biomethane Energy Recovery Charge ("BERC"). FEI captures these costs in the Biomethane Variance Account ("BVA"). FEI discusses this cost recovery method in more detail in the following sections.

9.1 Costs to be Allocated to all Customers

The first general principle employed in allocating costs of the Biomethane Program is that those costs incurred to provide all customers with the choice of participating in the Biomethane Program and costs of extending environmental benefits of the Biomethane Program should be allocated to all customers. The costs to be allocated to all utility customers include the costs associated with the capital assets downstream of the receipt point of biomethane on the FEI system and the costs to provide consumers with the option to purchase biomethane. The following subsections provide discussion on the type of costs that are to be allocated to all customers consisting of program costs and interconnection costs. The 2010-2011 Biomethane Program Costs deferral accounts are also reviewed.

PROGRAM COSTS: CAPITAL AND OPERATING RELATED TO ALL CUSTOMERS

In the 2010 Biomethane Application, FEI proposed certain costs to be allocated to all customers and in the 2010 Biomethane Decision, the Commission Panel accepted those costs as reasonable at that time. Subsequent to that proceeding, in the 2012/2013 Revenue Requirements and Rates Application referenced in Appendix B-1, FEI proposed the capital & O&M costs to be recovered from all customers during this time period to run the program. Certain O&M costs such as additional reporting, rate changes, application support were no longer required for the 2012/2013 period due to the implementation of the new CIS on January 1, 2012. An updated O&M table that was filed in response to BCUC IR1 in the 2012/2013

Revenue Requirements and Rates Application proceeding is also attached in Exhibit B-1, Appendix B-2.

FEI proposes that the following costs continue to be allocated to all customers:

- Capital and operating and maintenance costs related to ensuring that the biomethane is able to reach the distribution system safely, including the cost of service related to gas analyzing equipment, quality monitoring, meters, transmission or distribution pipeline extensions constructed to receive the injection of Biomethane
- The following on-going operating costs:
    - Customer education costs, including costs associated with marketing the program to customers with details about the Biomethane Program; and
    - A Biomethane Program Manager for the implementation, communications, tracking, accounting, reporting and management of the Biomethane Program.

Consistent with the program principles outlined in the 2010 Biomethane Application, the costs of making the program available to all customers and the costs associated with educating customers that are eligible to participate in the program should be recovered from all non-bypass customers. This allocation is consistent with established cost of service regulation principles for similar programs such as the Customer Choice Program. Further, in the case of the Biomethane Program, all customers will receive value from reductions in GHG emissions, which adds to the public interest considerations in the case for development of biomethane supply and offerings. As described in Exhibit B-1, Section 8, a large proportion of customers are open to a universal price model borne by all customers for the Biomethane Program.

For these reasons, FEI believes that it is fair and appropriate for all non-bypass customers to absorb the customer education, program manager and the other O&M & capital costs as described above that are required to make the program available to all customers.

9.2 2010-2011 Biomethane Program Costs Deferral Accounts

In the 2010 Biomethane Decision at pp. 58-59, the Commission approved two non-rate base deferral accounts to capture the following costs applicable to all customers incurred prior to January 1, 2012 (the remainder of the 2010-2011 revenue requirements test period):

i) Costs of service associated with the capital additions to the delivery system; and

ii) Operating and maintenance costs applicable to all customers.

These deferred costs were approved by the 2010 Biomethane Decision to be recovered from all non-bypass customers through amortization expense through the delivery rates starting on January 1, 2012 over a three year period. The deferral was transferred from non-rate base to rate base effective January 1, 2012 and was included in the 2012-2013 Revenue Requirements and Rates Application which was approved by Order No. G-44-12, dated April 12, 2012.

The net-of-tax deferred cost actual balance, as at December 31, 2011, was $515.7 thousand and is being amortized over the 3-year period from 2012 to 2014; each year's amortization is expected to remain at $172 thousand. A summary of program operating and maintenance costs including capital costs of interconnecting facilities for all the projects is described in Section 5.

INTERCONNECTION FACILITY COST RECOVERY

FEI submits that the approved cost recovery approach for interconnection facilities remains appropriate and should be approved on an ongoing basis.

Interconnection facilities can be contrasted with upgrading facilities, which are recovered from Biomethane customers. In short, the interconnection facilities are not akin to the upgrading assets. The interconnect facilities for Biomethane supply are downstream of the purification equipment (upgraders). The interconnection facilities play no role in the upgrading process. Instead, the purpose of the Biomethane supply interconnection facilities is to:

1. Measure and control the flow of gas onto the system;
2. Add odorant to the gas; and
3. Take the gas via pipeline to FEI's system.

These characteristics of the interconnection facilities make them similar to FEI's transmission pipeline system that is upstream of the distribution network system. At the receipt point for conventional natural gas supply, whether it is from the Westcoast or the Trans Canada system, FEI must have facilities that perform the same functions; that is, to:

1. Measure and control the flow of the gas onto our system,
2. Add odorant to the gas, and
3. Take the gas via pipeline to the distribution grid network.

These facilities, whether they are located at pipeline interconnections or at Biomethane supply points, are required for all FEI customers to receive pipeline quality gas that can be consumed by customers' gas appliances. Whether it is conventional natural gas or renewable natural gas does not alter the purpose or character of the facilities downstream of the receipt point.

The recommended accounting treatment and cost allocation for the interconnection facilities therefore remains as approved in the 2010 Biomethane Decision. That is, the costs of the interconnection facilities should be treated the same as similar assets on FEI's system and should be allocated to all customers.

9.3 Costs to be Allocated to Biomethane Customers

The second general principle employed in allocating costs of the Biomethane Program is that costs that are incurred on behalf of those customers electing to participate in the Biomethane

Program will be allocated to, and recovered from, those customers via the BERC rate under the various biomethane tariff rate offerings.

Costs to be allocated to Biomethane Program customers consist of the following:

1. The cost of purchasing upgraded, biomethane gas.
2. The cost of purchasing raw biogas.
3. The costs of upgrading raw biogas to biomethane when FEI owns the upgrading equipment (currently that will be the Salmon Arm and City of Kelowna landfill projects), which consist of:
    a. Operating O&M for the upgrading equipment; and
    b. Capital-related costs of service for the upgrading equipment.

The administrative costs related to the Biomethane Program such as customer drops/finalizations and mailing enrollment confirmations were initially forecast in the Biomethane Application. With the implementation of the new CIS in January 2012, FEI no longer anticipates incurring any administrative costs within the BVA. As approved in the 2010 Biomethane Decision, the BERC is determined based on forecast biomethane supply costs and volumes, and subject to Commission approval. As the actual supply costs and volumes invariably differ from the forecast supply costs and volumes, the BVA is used to capture the differences between the biomethane costs incurred by FEI to acquire the supply and the revenue collected by FEI through the BERC.

Additional details on BVA reporting and rate setting are described in Exhibit B-1, Section 9.

9.4 Conclusions regarding Assessment of Pricing Methodology and Principles of Cost Recovery

In the two year test period, FEI assessed the recovery of costs from the various customer groups and proposes that the existing cost allocation, accounting treatment and rate setting for the Biomethane Program be continued. FEI is of the view that the principles proposed result in a fair and reasonable allocation of costs.