

January 18, 2013

British Columbia Utilities Commission
Sixth Floor
900 Howe Street
Vancouver, B.C.
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")

January 17, 2013 Workshop Materials

On December 19, 2012, FEI submitted the above noted Application. On January 8, 2013, the British Columbia Utilities Commission (the "Commission") issued Order No. G-1-13 establishing the Regulatory Timetable for the review of the Application. On January 17, 2013, in accordance with the Regulatory Timetable, FEI held a Workshop with Commission staff and Interveners.

FEI respectfully submits the attached Workshop participant attendee list and presentation materials into the record of the proceeding.

If there are any questions regarding the attached, please contact Shawn Hill at (604) 592-7840.

Yours very truly,

FORTISBC ENERGY INC.

Original signed by: Shawn Hill

For: Diane Roy

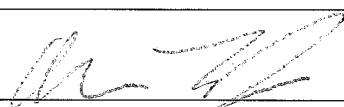



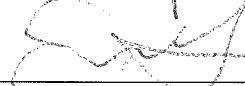

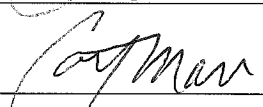


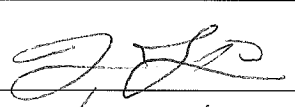



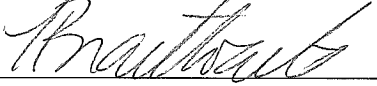


Attachment

cc (e-mail only): Registered Parties

FEI Biomethane Post Implementation Report (PIR) and Program Application

Workshop Attendee Sign-in

January 17, 2013

Name (Print)	Company / Representing	Signature
Allison Lunde	FORTIS BC	
Brian Noel	Fortis BC	
Shawn Wolfe	"	
Shawn Hill	"	
Janet Dwyer	"	
Chris Bystrom	Foster Maclean	
Corthy Marr	BCUC	
Scott Gramm	FortisBC	
Jeff Carmichael	Metro Vancouver	
Jeff Giffin	UBC	
Laura Sharpe	BCUC	
Doug Chang	BCUC	
Dan Craig	CEC	
JEFF PLATO	PARADISUM	
Tannis Braithwaite	BCPIAC	
Tony Smith	BCC	
Al Kleinschmidt	Bureau Consulting (BCUC)	



**FEI Biomethane Post Implementation Report (PIR) and Program Application
Workshop Attendee Sign-in
January 17, 2013**

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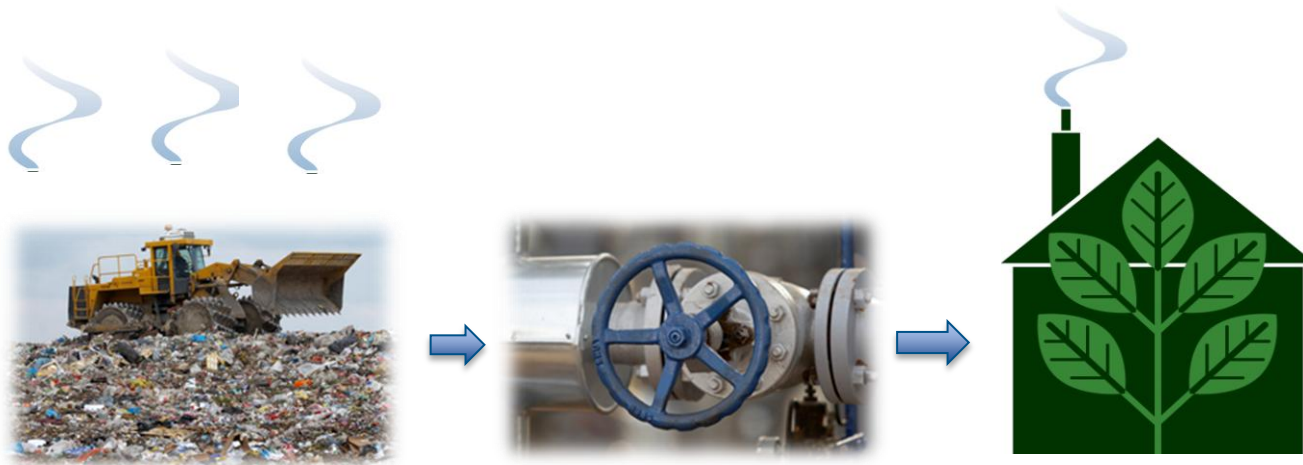
FortisBC Biomethane Post Implementation Review Workshop

Agenda

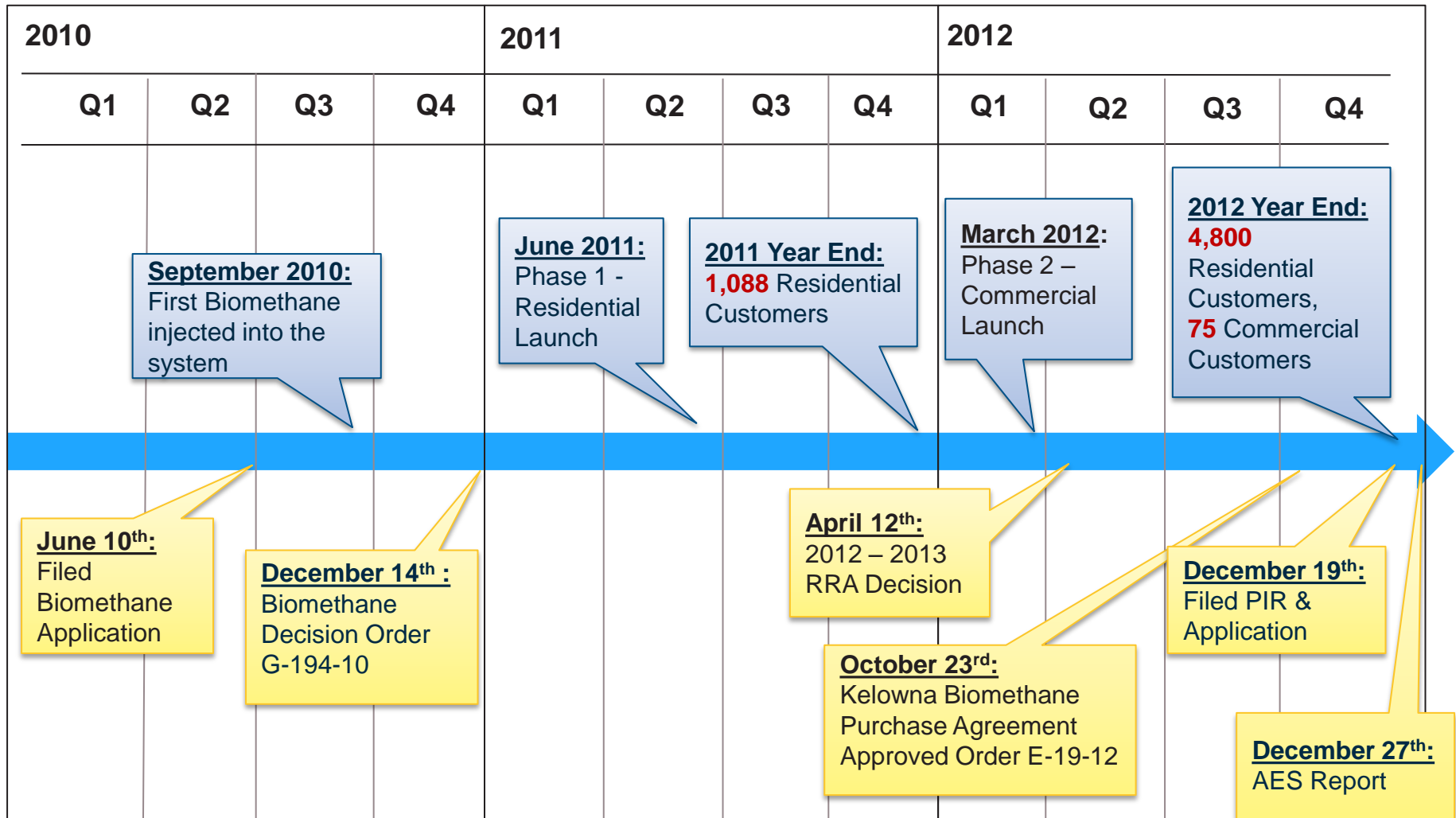
- Background
- Post Implementation Report Findings
- Results from the AES Inquiry
- Continuation of the Biomethane Program
- Q&A

Why Renewable Natural Gas?

- Customer demand
- Support Government Regulations
- Right thing to do
- Most efficient and cost effective use of energy
- New, leading edge way to reduce your carbon footprint
- Utility plays a critical role



Key Program Milestones

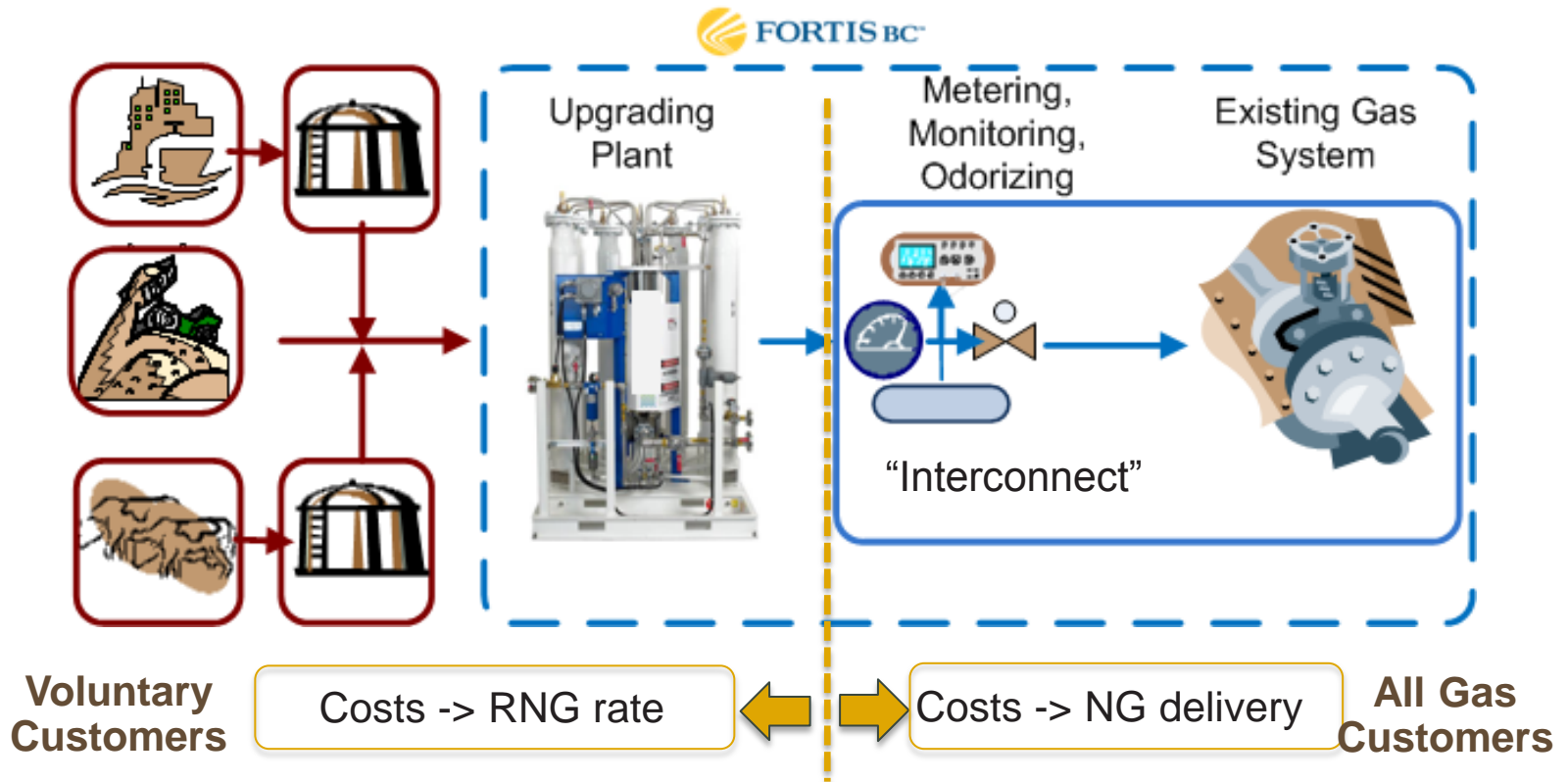


Approvals Biomethane Decision Order G-194-10

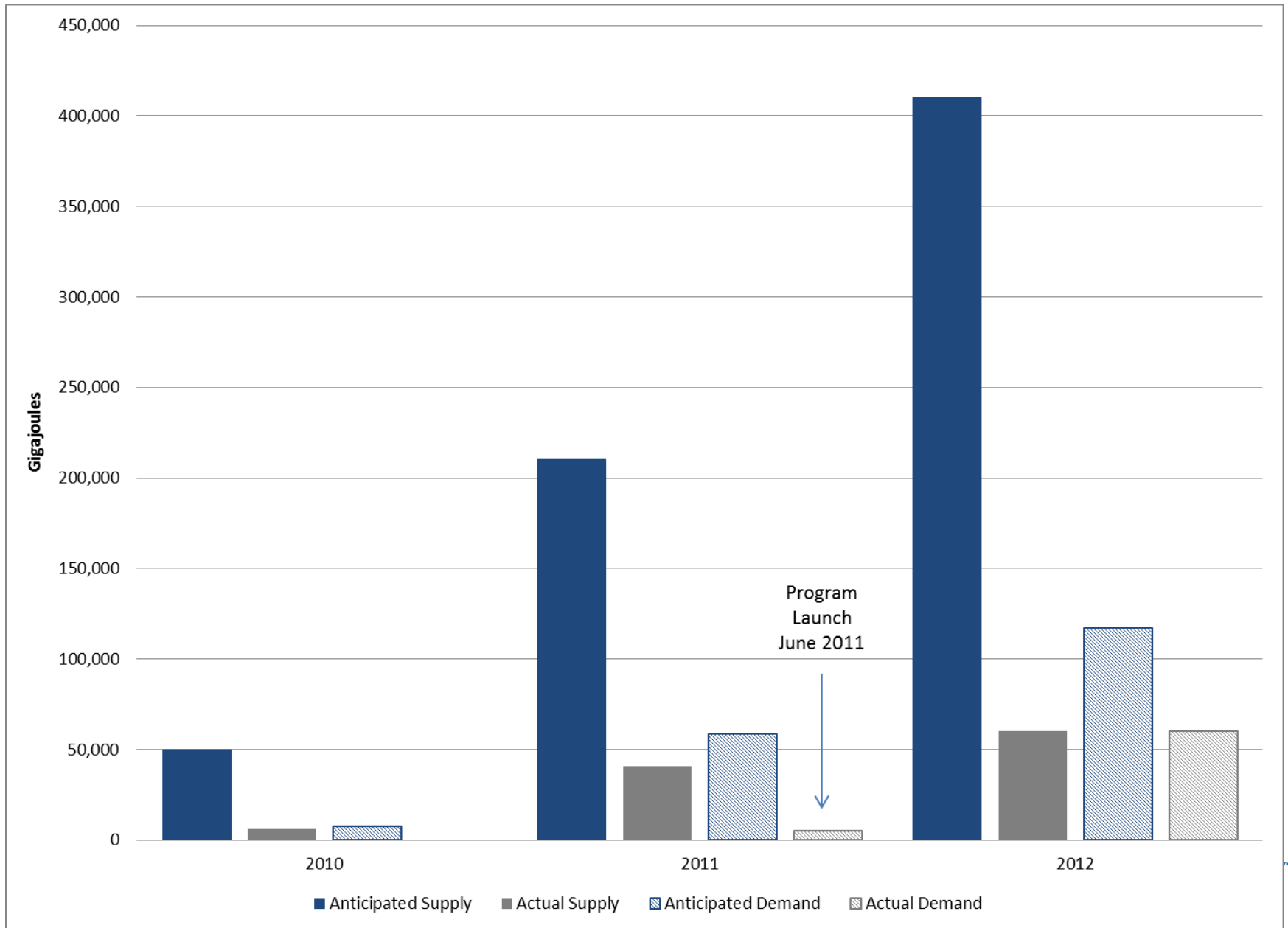
- 2 year test period
- \$15.28 / GJ supply pool price cap & 250,000 GJ supply cap
- Biomethane new Rate Schedules 1B, 2B, 3B and 11B and proposed amendments to existing Rate Schedule 30
- Customer education & interconnection costs – all customers
- Upgraded biomethane or upgrader & raw biogas – RNG customers
- 2 supply projects:
 - Fraser Valley Biogas (Catalyst)
 - Salmon Arm Landfill

FortisBC RNG Business Model

FortisBC may invest in “upgrading” plant in cases where suppliers request



Summary of Results 2010 - 2012



Post Implementation Report Requirements

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

Order G-194-10, item 10

Summary of the Report

- The RNG Offering and the supply side business model is working as anticipated
- RNG demand is on target and expected to outstrip current approved supply by 2015
- Additional supply required to meet demand from emerging markets
- FEI incorporating lessons from existing supply into future projects
- Existing cost allocation and recovery principles be continued

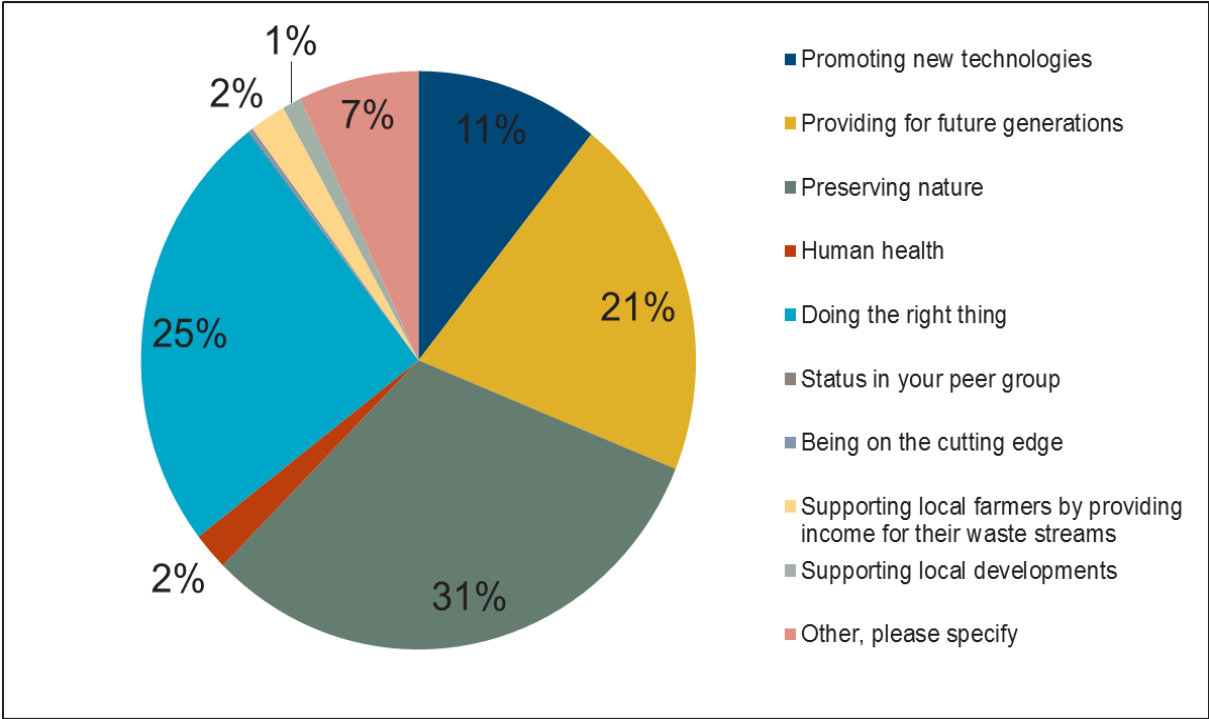
1. Customer Segmentation & Targeting



Preserving Nature and Doing the Right Thing Continues to Motivate Residential Enrolments

Existing Subscribers

Motivations



Demographics

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

Growing Market Potential



1. Dark Greens: Extreme Environmentalists: Committed to considering the environmental impact in everything they do



2. Light greens: Not as committed to the environment as the Greens, but still caring



3. Potential Switchers: Consider themselves environmentally friendly, but thinking of switching to a more practical lifestyle



4. Try harders: Practical but striving to be more environmentally caring



5. Practicals: Committed to a practical environmental impact lifestyle, but still takes the environment in account



6. Extreme Practical: Committed to a pragmatic lifestyle; only considers the environmental impact only when it is reasonable or practical to do so



7. Unconcerned: Don't think that much about the impact their decisions have on the environment

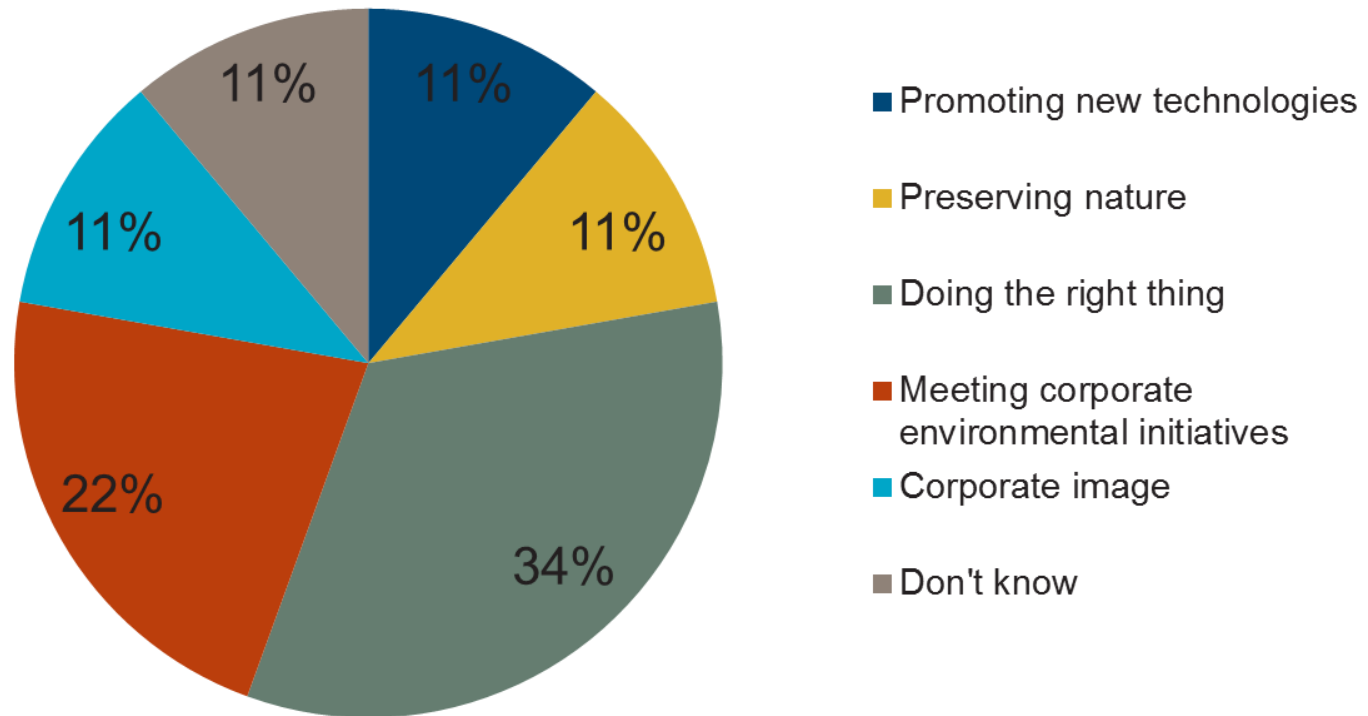


8. Browns: Don't think at all about the environmental impact in anything they do

Doing the Right Thing and Meeting Corporate Initiatives Motivates Commercial Enrolments

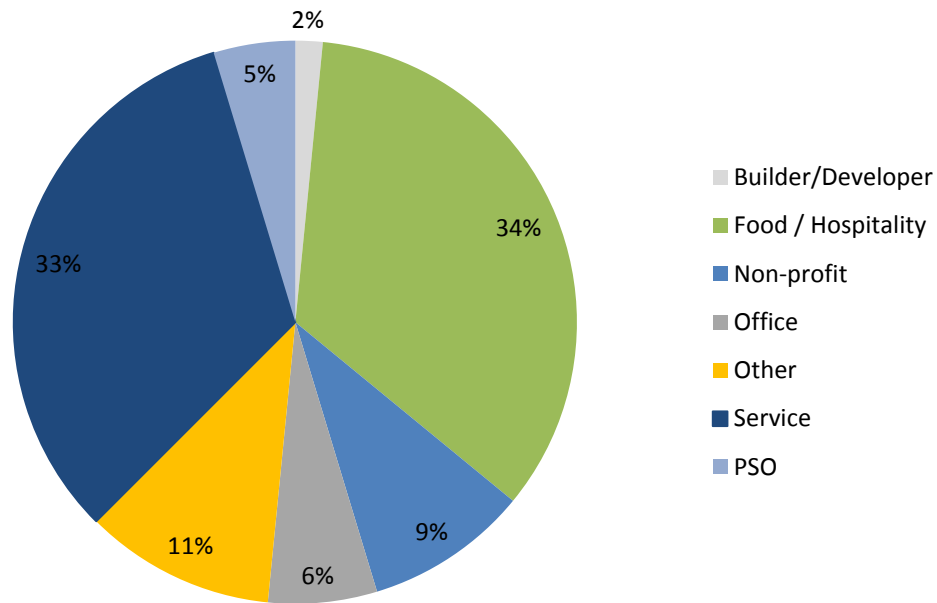
Existing Subscribers

Motivations



Green Leader Businesses

Firmographics - Industry



Emerging Market Segments Present Significant Growth opportunity

- Municipalities
 - Use Biomethane as an alternative to buying offsets
- Cogeneration customers
 - Using Biomethane to qualify for Hydro's clean energy criteria



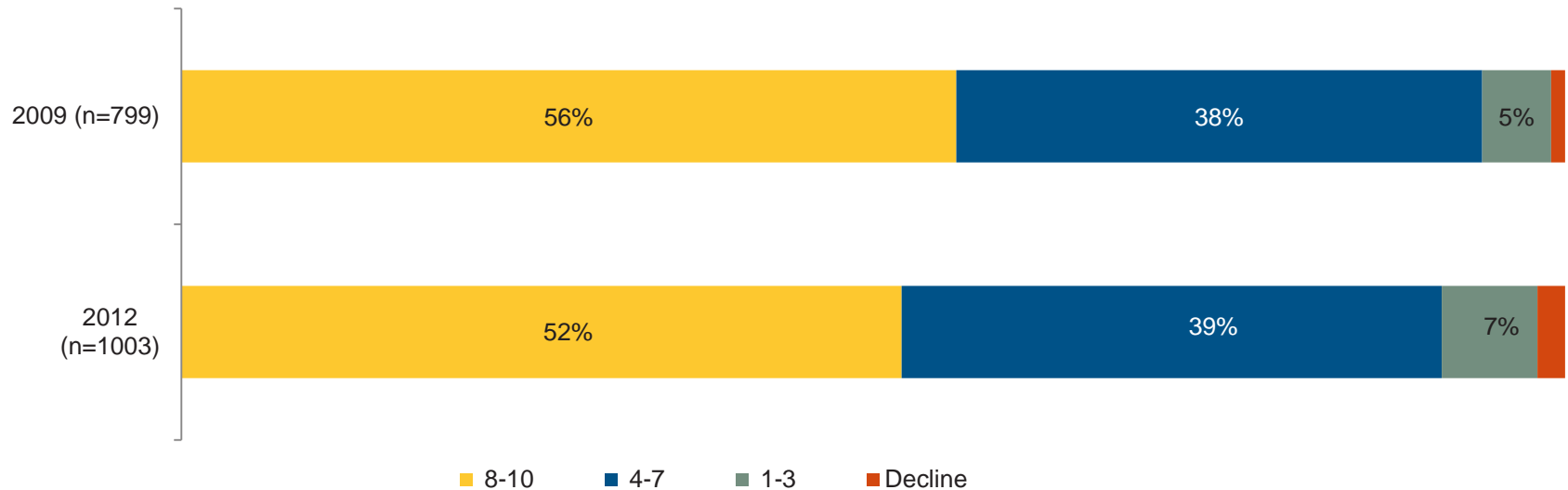
Conclusion on Customer Segmentation and Marketing

- Primary markets in Residential and Commercial markets as expected
 - Residential market slightly older then originally anticipated (65+)
- Emerging secondary markets in both Residential and Commercial markets provide excellent room for growth

2. Validation of Market Research



Likelihood To Sign Up For FortisBC RNG Program is similar to 2009



Q5: (On a scale of 1 –Not very likely to 10 – Definitely) All things being equal, if FortisBC offered a RNG program?

Takes time to achieve industry average participation rates of 2%

Green Pricing Programs across North America

Industry Results	2008	2010
# of Green Pricing Programs	850	860
Average Customer Participation Rate	2.2%	2.1%
Median Customer Participation Rate	1.1%	1.0%
Average years in Market*		8

Based on data provided by National Renewable Energy Laboratory

*Based on average start year of 2002

Our participation rates trending towards industry median of 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

Program Results

		# 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

* Volume is an Annualized Amount

Biomethane Demand Meets Target

		Target # of Customers	Actual # of Customers	Target Demand (GJ)	Annualized Demand (GJ)
As of December 12 th 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

Conclusions on Validation of Market Research

- Participation on track and volume target achieved
- Green pricing programs with an industry average of 2% participation have been in market for an average of 8 years - FEI on track to achieve that.
- Updated residential market research shows similar results to 2009

3. Costs and assessment of customer marketing/education programs

Cost Expenditures on Budget

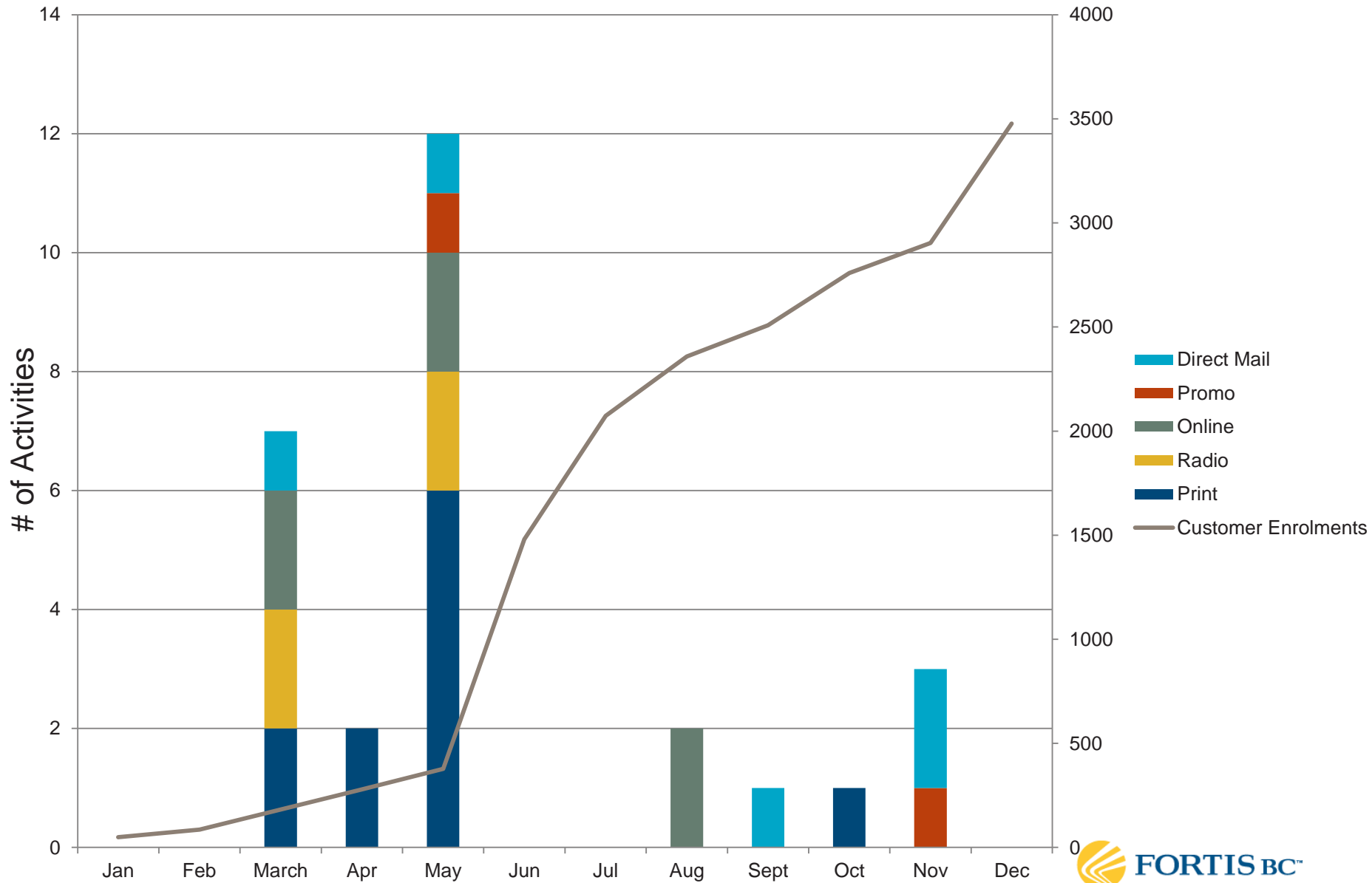
	2010 / 2011 BUDGET	2010 / 2011 ACTUALS
Media	\$ 240,000	\$ 191,267
Production	\$ 85,000	\$ 88,522
Promotions / Events	\$ 75,000	\$ 105,798
Total	\$ 400,000	\$ 385,586

	2012 BUDGET	2012 FORECASTED ACTUALS
Media	\$ 205,000	\$ 161,059
Production	\$ 45,000	\$ 42,030
Promotions / Events	\$ 50,000	\$ 93,883
Total	\$ 300,000	\$ 296,972

Communication Objectives Remain the Same

1. Generate awareness and understanding of RNG as a renewable energy and its availability today;
2. Generate awareness and understanding of the FEI RNG Offering;
3. Stimulate interest and participation in the RNG Offering; and
4. Maintain participation and support for the RNG Offering.

Customer Education & Promotions Drives Enrolments



Conclusion on Costs and assessment of customer marketing/education programs

- On Budget
- Enrolment increased by 400% from 2011 – 2012
- Must continue to pursue an integrated customer education plan
 - Bill inserts
 - Direct Sales
 - Website
 - Promotions

4. Enrolment and attrition rates

Reasonable Enrolment and Attrition Rates

Year	Total Enrolments	Drop Rate	Adjusted Drop Rate	Industry Average
2011	1,158	6.0%	1.0%	7.0%
2012 (Dec 1st)	3,764	7.6%	1.5%	7.0%

Conclusion on Enrolment and Attrition Rates

- In line with industry averages
- Customer education programs successful in retaining customers

5. Demand Forecast, Supply Potential (next ten year period)

Methodology used for Demand Forecast is Appropriate and Reasonable

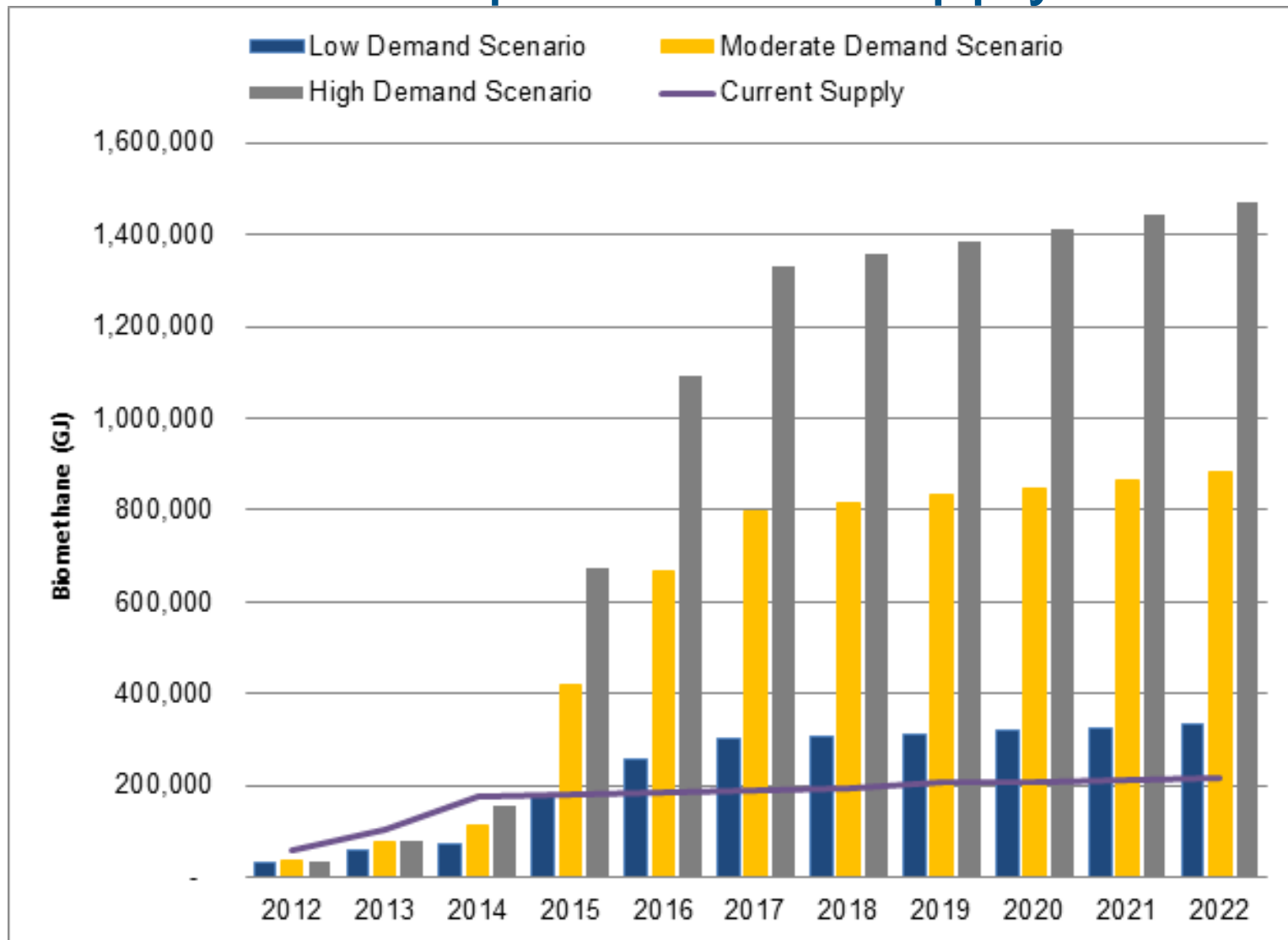
Three scenarios developed using:

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

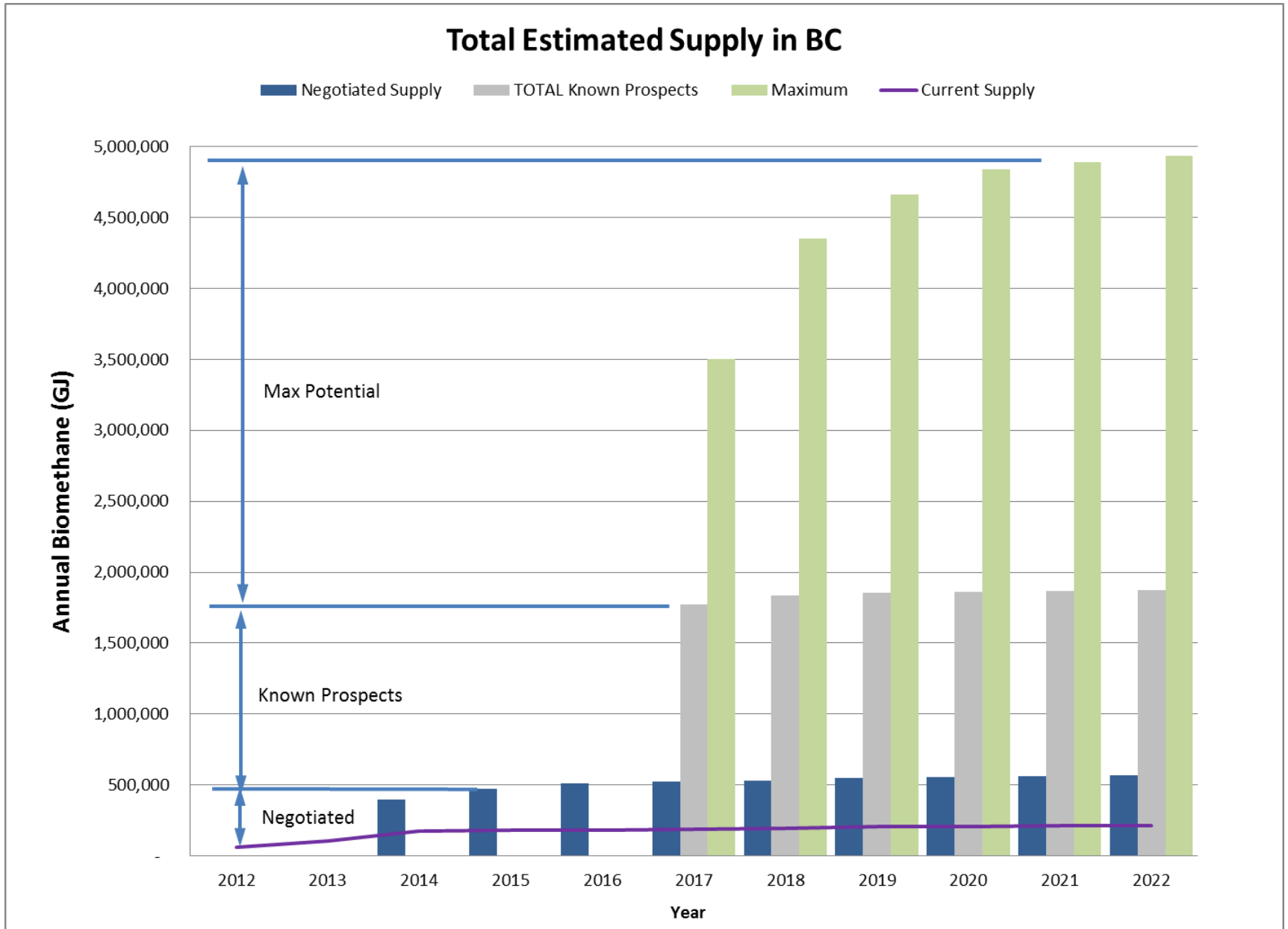
Demand Forecast Assumptions - Moderate Case scenario

- Residential participation rates reach industry average 2% by 2017
- Commercial participation rates ramp from 0.2% in 2012 to 0.6% by 2017
- 30% growth rate for Rate 11B tariff based on 2012 as a baseline
- 30% capture rate for emerging market customers based on the LOI's
- 1% capture rate for the transportation market based on prescribed undertaking projections

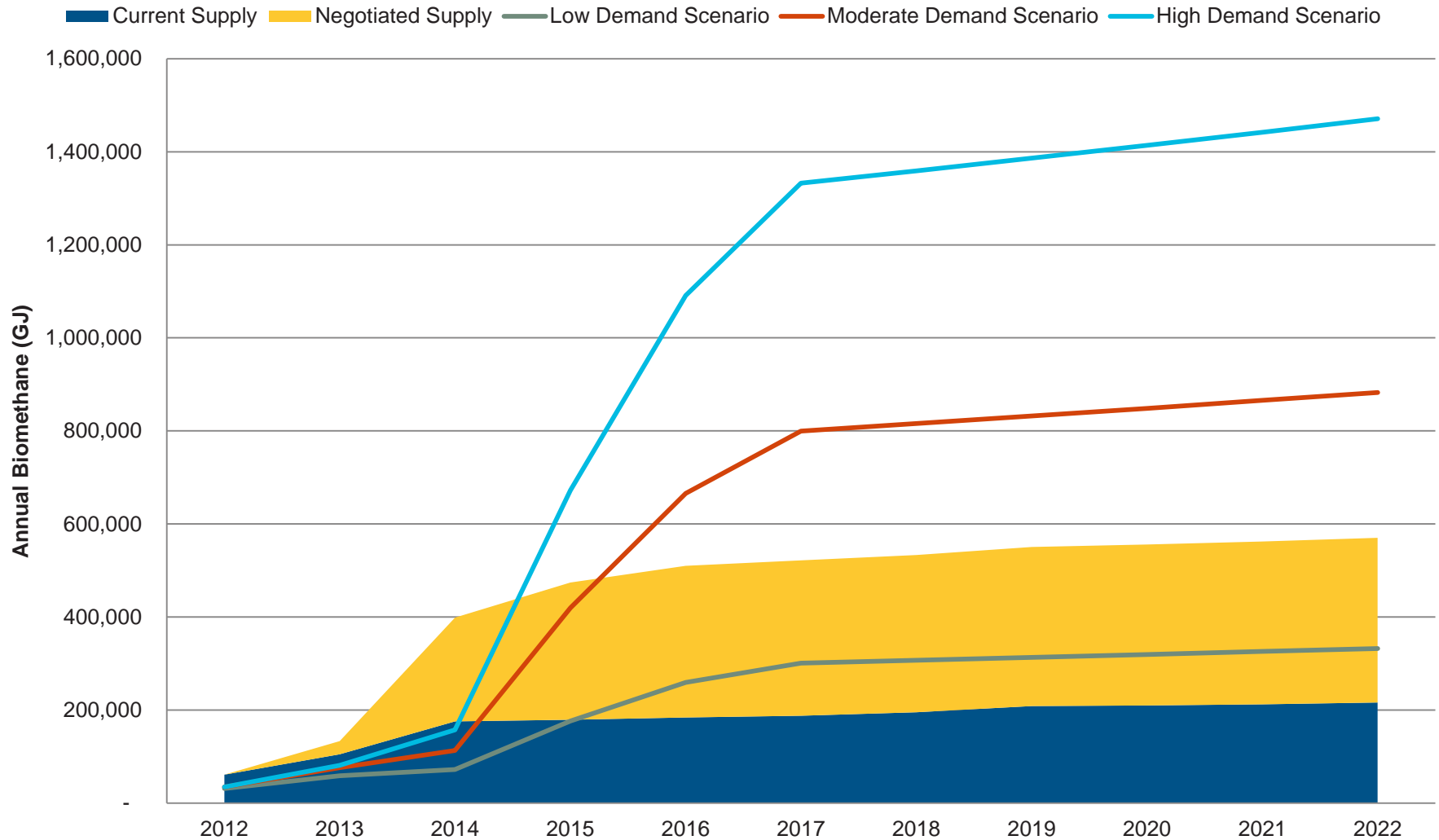
Demand Outstrips Current Supply 2015



Potential Supply of 5 PJ in B.C.



Forecasted 10 Year Negotiated Supply vs. Demand



Conclusion on Forecasts of Biomethane supply as well as customer demand and anticipated update for the next ten year period

- Developed three demand forecasts based on secondary research, primary research and letters of intent from Emerging Markets
- Demand outstrips current supply past 2015
- Must start developing additional supply to meet customer demand
- Supply is currently available, to a maximum of 5 PJ in 2020.

6. Financial review of all projects
(individual and aggregate numbers)
which have been undertaken;

Current Projects - Fraser Valley Biogas*

*Formerly Catalyst Power

- On-farm digester, located in Abbotsford, BC
- Injecting biomethane since September 2010
- Biomethane meets quality specification
- Integrated into existing operations
- Supplier Owns Upgrader



Primary Challenge	Result	FortisBC Lesson
Catalyst Power saw lower than expected volumes	Business failure which led to new owner and Agreement	<ol style="list-style-type: none">1. Advocate for third party verification of gas volumes2. Increase understanding of raw biogas production

Current Projects - Salmon Arm Landfill

- Existing landfill, located in Salmon Arm, BC
- Final stages of acceptance testing
- Expecting to inject biomethane January/February 2013
- Biomethane meets quality specification
- Integrated into existing operations
- FortisBC Owns Upgrader



Primary Challenge	Result	FortisBC Lesson
Upgrade plant supplier did not meet expectations	Late delivery of upgrade plant, scope expansion and delays led to inflated costs	<ol style="list-style-type: none">1. Increase diligence on gas sampling ahead of project2. More scrutiny on vendor selection

Salmon Arm Costs Higher than Expected

Item	\$000's		
	Biomethane Application Costs Jun 2010	Projected Jan 2013	
Cost of Connecting Pipeline	\$ 45.1	\$ 45.1	All Customers
Other Interconnection Facilities	\$ 637.5	\$ 532.6	
Total Interconnection Costs	\$ 682.6	\$ 577.7	
Upgrader Raw Costs	\$ 1,621.8	\$ 2,364.0	Voluntary Customers
Government Funding*	\$ 515.6	\$ 566.0	
Total Upgrader	\$ 1,106.2	\$ 1,798.0	
Project Aggregate	\$ 1,788.8	\$ 2,375.7	

- *Government funding awarded for upgrader (reported as CIAC)
- Upgrader budget \$695 k over budget
- Total project budget over by approximately \$520 k (~30%)

Projected Interconnect Costs Approved Projects

Item	\$000's		
	Fraser Valley Biogas	Salmon Arm Landfill	Kelowna Landfill Gas
Cost of Connecting Pipelines	\$ 73	\$ 34	\$ 452
Other Interconnection Facilities	<u>\$ 431</u>	<u>\$ 474</u>	<u>\$ 665</u>
Total Direct Costs	<u><u>\$ 504</u></u>	<u><u>\$ 508</u></u>	<u><u>\$ 1,117</u></u>

- Total capital for interconnect on approved projects expected to total \$2.13 Million

Aggregate Costs for Interconnect Less than Projected

Costs - Fraser Valley Biogas and Salmon Arm Landfill
(excluding upgrader)

Item	\$000's		Biomethane	
	Actuals		Appl'n	
Cost of Connecting Pipelines	\$	107	\$	273
Other Interconnection Facilities		906		998
Total Direct Costs	\$	<u>1,013</u>	\$	<u>1,271</u>

- Aggregate interconnect costs \$258 k less than anticipated in Biomethane Application

Conclusion on Financial Review

- FEI's actual interconnect costs less than the budgeted amount
- Upgrader cost for the Salmon Arm landfill project greater than anticipated
- FEI has gained valuable experience and knowledge from the first two approved supply projects and is incorporating the lessons into future projects.

7. Future Projects that are under consideration

Near Term Supply in 2012 Application

Purchase Agreements have been reached for these Projects

Project	Description	Upgrade Owner	Max Volume (GJ/Year)	Earliest In Service
Earth Renu	AD of urban Organics	Supplier	205,000	2014
MetroVan	Wastewater Treatment Plant	Supplier	40,000	2014
Sea Breeze Farm	AD on Dairy Farm	Supplier	70,000	2013
Dickland's Farms	AD on Dairy Farm	Supplier	70,000	2014

*AD=Anaerobic Digestion

FEI will not own upgraders for the next four projects

Near Term Large Prospects

Project	Description	Upgrade Owner	Max Volume (GJ/Year)	Earliest In Service
City of Vancouver – Delta Landfill	Landfill	FortisBC Proposed	500,000	2015
City of Surrey Biofuels Facility	Urban Organics AD	Undecided	400,000	2015

- FortisBC responded to City of Vancouver Request for Expression of Interest (to cover expected future demand)
- City of Surrey plans to develop biogas facility to fuel existing CNG fleet with R-CNG
- Additional 295,000 GJ/year in known prospects

Review of Lost Projects

Project	Description	Upgrade Owner	Max Volume (GJ/Year)	Earliest In Service
Cache Creek	Landfill	FortisBC Proposed	250,000	End 2013
Harvest Power	Compost -> digester facility	Supplier	50,000	2012

- Projects chose to go to electricity rather than biomethane
- Both indicated that the established BC Hydro programs for Power Purchase provided certainty

Lost projects are lost benefits

- Lost projects reduce already limited supply for Biomethane development
- Suppliers need regulatory certainty before investing significant time and money

Biomethane is:

- ✓ A highly efficient use of the raw biogas
- ✓ A cost effective alternative form of low carbon energy
- ✓ A unique way for gas users to contribute to lower GHG

Conclusion on Future Projects

- Current Approved projects meet current demand
- Additional proposed 330,000GJ/Year (385,000 GJ/Year Max) of near term supply – provide solid base for future demand
- Demand exceeds approved supply by 2015
- Maximum Projected Supply remains at 5.0 PJ
- Lost projects may hamper ability to meet future demand
- Program certainty required to secure supply

8. Assessment of Pricing Methodology and Principles for Cost Recovery

Biomethane Rate Set Annually

Effective Date	BERC Rate (\$/GJ)	Commodity Cost Recovery Charge (\$/GJ)
January 1, 2011	9.904	4.568
October 1, 2011	9.904	4.005
January 1, 2012	11.696	4.005
April 1, 2012	11.696	2.977

- Biomethane Energy Recovery Charge(BERC) - Set annually with a Jan 1st effective
- Rates based on Biomethane cost forecast and the recorded variance account deferral balance
- Cost for raw biogas and upgrader flow into this rate

Cost Allocation Assessment

- **Cost Allocated to all customers**
 - Capital & O&M related to ensuring that the Biomethane is safely injected into the system
 - Biomethane program manager and customer education costs
- **Costs allocated to Biomethane Customers**
 - The cost of purchasing upgraded, biomethane gas.
 - The cost of purchasing raw biogas.
 - The costs of upgrading raw biogas to biomethane when FEI owns the upgrading equipment

AES Inquiry Implications

AES Inquiry Report

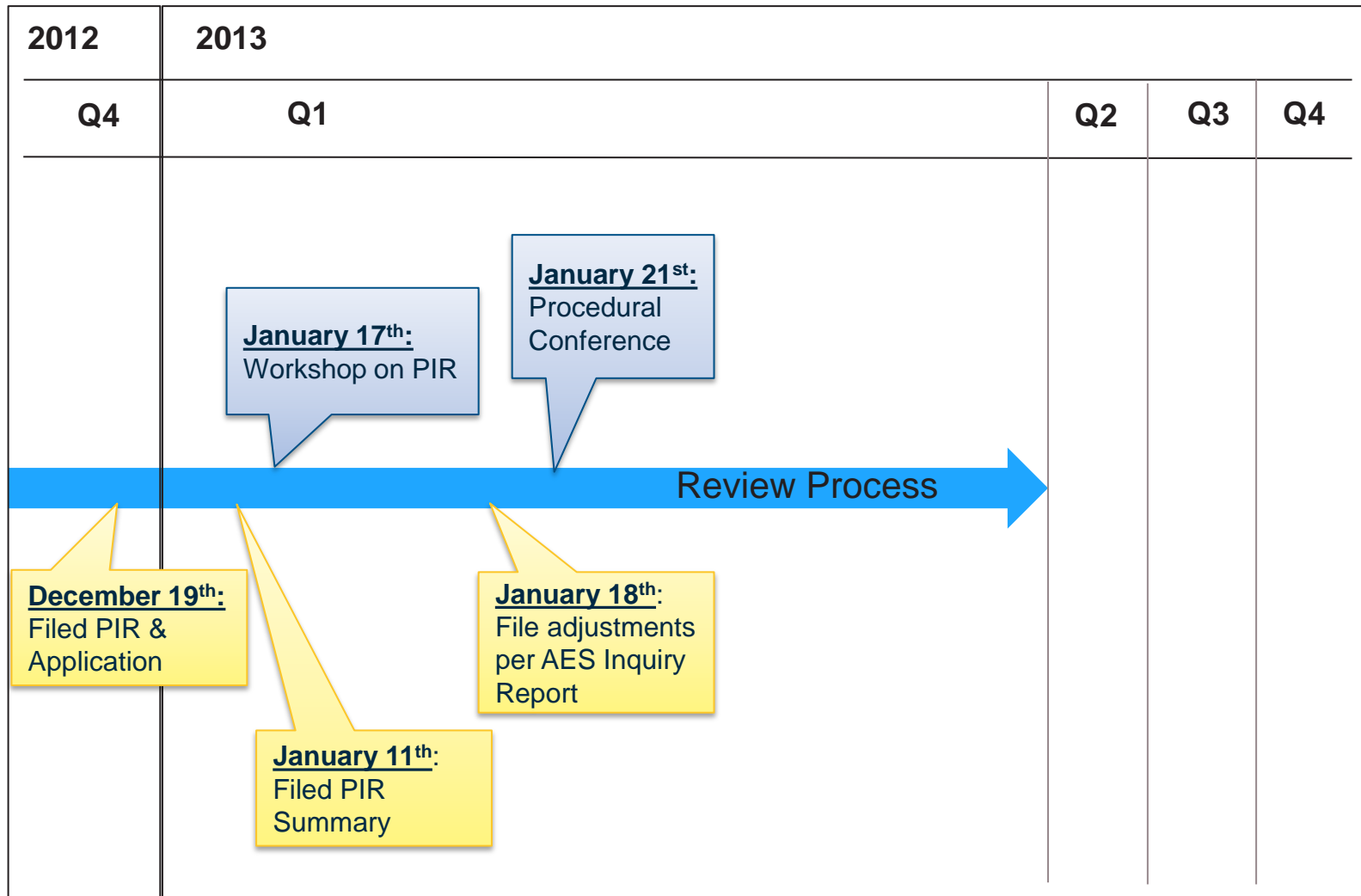
Program Principle	Determination	Impact on Application
Biomethane Service	Need for Regulation	None
	Business Structure	None
	Cost Allocation	None
Biomethane Upgrading Facilities and Extensions to Connect Facilities	Need for Regulation	None
	Form of Regulation	None
CPCN Threshold		Proposed threshold of 5M
Ownership of Upgraders and Business Structure		None

Continuation of the Biomethane Program

Going Forward

- FEI to continue the RNG Offering to residential and commercial customer groups, with additional options of Biomethane blends
- Seeking acceptance of four energy supply agreements pursuant to section 71 of the Act and related capital costs pursuant to section 44.2 of the Act
- An increase in the supply cap from its existing 250,000 GJs;
- Adjustments to the maximum price of supply
- Introduction of a Midstream Cost Reconciliation Account (“MCRA”) cost recovery mechanism.
- Resetting the Biomethane Energy Recovery Charge (“BERC”) rate for 2013

Next Steps



Questions?