Diane Roy
Director, Regulatory Affairs

FortisBC Energy
16705 Fraser Highway
Surrey, B.C. V4N 0E8
Tel: (604) 576-7349
Cell: (604) 908-2790
Fax: (604) 576-7074
Email: diane.roy@fortisbc.com
www.fortisbc.com

Regulatory Affairs Correspondence
Email: gas.regulatory.affairs@fortisbc.com

June 20, 2013

Via Email
Original via Mail

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) Application for Approval of a Multi-Year Performance Based Ratemaking (PBR) Plan for 2014 through 2018 (the 2014-2018 PBR Plan)

Energy Efficiency and Conservation (EEC) and Forecast Workshop Materials

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On May 15, 2013, FEI held a workshop related to its 2014-2018 PBR Plan on the topics of EEC and the Demand Forecast.

Attached please find the list of attendees present at the workshop, as well as the presentation materials from the workshop for the record of this proceeding.

If you require further information or have any questions regarding this submission, please contact the undersigned.

Sincerely,

FORTISBC ENERGY INC.

Original signed:

Diane Roy

Attachments

cc (e-mail only): FEU 2012-2013 RRA Registered Parties

Organizaton	Last Name	First Name	EEC	Forecasting	Present
COPE	Quail	Jim	Yes	Yes	Yes
BCSEA	Andrews	Bill	Yes	Yes	Yes
BCSEA	Hackney	Thomas	Yes	Yes	Yes
Clean Energy	Johnstone	Iain	Yes	No	No
MEMNG	Kaye	Erik	Yes	Yes	Yes
BC Hydro	Black	Maureen	Yes	No	Yes
BC Hydro	McClelland	Lyle	Yes	No	Yes
BC Hydro	Hiebert	Shane	Yes	No	Yes
BC Hydro	Ince	David	Yes	No	No
BC Hydro	Nichifor	Ioan	No	Yes	?
BC Hydro	James	Fred	No	Yes	?
BC Hydro	Hobkirk	Bryan	No	Yes	Yes
BC Non Profit Housing Association	Linsky	Andrea	Yes	Yes	Yes
BCUC	Ashley	Jackie	Yes	Yes	Yes
BCUC	Sue	Susanne	Yes	Yes	Yes
BCUC	Proctor	Benn	Yes	Yes	Yes
BCUC	Pedret	Benn	Yes	Yes	Yes
CEC	Craig	David	Yes	Yes	Yes
CEC	Peters	Ann	Yes	Yes	Yes
BCUC	Chong	Doug	Yes	No	Yes
Climate Smart	Sheehan	Elizabeth	Yes	No	Yes
ICBC	Scultety	Jason	Yes	No	Yes
ICBC	Brar	Sunny	No	Yes	Yes
BCPIAC (for BCPSO)	Kung	Eugene	Yes	Yes	Yes
BCPIAC (for BCPSO)	Pritchard	Erin	Yes	Yes	Yes
BCPIAC (for BCPSO)	Braithwaite	Tannis	Yes	Yes	Yes
Fraser Basin Council	Purdy	Bob	Yes	Yes	Yes
Pacific Arbour Retirement Communities	Winsor	Karim	No	Yes	Yes
	Pape-Salmon	Andrew	Yes	No	via telecon
FEI	Hill	Shawn			
FEI	Ghavami	Negar			
FEI	Bystrom	Chris			
FEI	Smith	Sarah			
FEI	Norman	Colin			
FEI	Chia	Jenny			
FEI	Georgy	Ned			
FEI	Ringdahl	Beth			
FEI	Cook	Ramsay			
FEI	Kobialko	Jim			
FEI	Bailey	David			
FEI	Kim	Soyean			
FEI	Ross	Ken			
FEI	Veerman	Keith			
FEI	Warner	Maud			
FEI	Barkey	Janice			
FEI	Wong	Cindy			

Energy Efficiency and Conservation 2014-2018 EEC Plan Elements of Revenue Requirement Application

Sarah Smith
Director EEC

Colin Norman
EEC Program Manager – Portfolio Projects

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Funding level by year

Expenditure type	Requested Expenditures ($000s)					
	2014	2015	2016	2017	2018	Totals
Incentive	19,543	21,086	21,020	20,455	20,556	102,660
Non-Incentive	14,810	15,452	14,818	14,933	15,318	75,331
Totals	34,353	36,537	35,839	35,388	35,874	177,991

- Figures presented here and throughout the presentation do not include inflation and are in 2014 dollars

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Funding level by program area

Program Area	Approved Expenditures ($000s)		Requested Expenditures ($000s)				
	2012	2013	2014	2015	2016	2017	2018
Residential	9,261	10,623	10,558	11,152	11,110	10,700	11,383
Low Income	4,969	4,969	2,629	2,822	3,042	3,247	3,483
Commercial	8,759	12,708	11,132	11,573	10,972	10,416	10,051
Industrial	1,072	1,756	1,912	2,357	2,662	2,983	2,983
Innovative Technologies	1,546	1,502	1,207	1,218	1,233	1,218	1,210
CEO	3,470	4,016	2,400	2,400	2,400	2,400	2,400
Enabling Activities**	n/a	n/a	4,515	5,015	4,420	4,425	4,365
Totals	29,077	35,574	34,353	36,537	35,839	35,388	35,874

** included in Residential in 2012-2013

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Financial treatment proposed – very little change from current practice

- 10 year amortization
- $15 million into rates each year – allocated 89% FEI, 10% FEVI, 1% FEW
- Remainder up to approved level recovered in the 2nd year following expenditure – Annual Review in PBR
- Incentives charged as incurred
- Program area funding transfers to continue
- Portfolio-level cost-effectiveness
- NEW: New programs not previously rejected do not require Commission approval

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California Standard Practice Tests

	TRC/MTRC	Utility	Ratepayer	Participant
Avoided energy cost (fuel, distribution, transmission)	Benefit	Benefit	Benefit	
Avoided capacity cost	Benefit	Benefit	Benefit	
Participant incremental cost	Cost			Cost
Rebates	Transfer	Cost	Cost	Benefit
Program admin costs	Cost	Cost	Cost	
Other benefits/costs	Benefit/cost			Benefit/cost
Lost utility revenue/lower energy bills	Transfer		Cost	Benefit

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MTRC

- Zero Emission Energy Alternative (“ZEEA”)
- 15% Non-Energy Benefits (“NEBs”) adder
- For up to 33% of gas DSM portfolio

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Proposed portfolio is cost-effective

- Combined/weighted TRC/MTRC is 1.30
- TRC is 0.93
- UTC is 1.30
- Participant is 2.33
- RIM is 0.49

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NPV of gas savings

- Energy Star Water Heater Program
  - 5.8 GJ/participant
  - 17.2 year measure life
  - 6.82% discount rate
  - NPV 612,197 GJ

Other matters affecting cost-effectiveness

- Spillover – case-by-case basis
- Attribution from introduction of codes and standards – case-by-case basis
- Reported transparently in EEC Annual Report

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2014 – 2018 EEC Plan

- Developed in a similar manner as 2012 – 2013 EEC Plan
  - Collaborative working effort between FortisBC EEC program personnel and ICF Marbek staff
- Fortis BC program managers produced individual program profiles
- ICF Marbek worked with program profiles to produce cost effectiveness results and build overall report

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Funding levels

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Totals	29,077	35,574	34,353	36,537	35,839	35,388	35,874

** included in Residential in 2012-2013

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Gas Savings & B/C Results

Indicator		Total
Annual Gas Savings, Net (GJ/yr.)	2014	**703,948**
	2015	**1,391,743**
	2016	**1,937,743**
	2017	**2,535,491**
	2018	**3,123,762**
NPV of Gas Savings, Net (GJ)		**23,503,471**
Benefit/Cost Ratios	TRC	**0.93**
	Portfolio*	**1.30**
	Utility	**1.30**
	Participant	**2.33**
	RIM	**0.49**

* Includes the MTRC adder for programs that require it (i.e. TRC/MTRC hybrid)

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Programs Requiring MTRC

Program Area	Requested Expenditures ($000s)					
	2014	2015	2016	2017	2018	Total
Furnace Replacement Program (Residential)	3,355	3,340	3,340	3,340	3,330	**16,705**
ENERGY STAR® Water Heater Program (Residential)	1,096	1,472	1,215	1,120	1,372	**6,275**
New Home Program (Residential)	1,036	1,036	1,036	784	784	**4,677**
New Technologies Program (Residential)	262	287	310	335	361	**1,556**
Customer Engagement Tool for Conservation Behaviours (Residential)	578	706	848	1,006	1,290	**4,428**
Continuous Optimization Program (Commercial)	2,779	2,185	1,724	1,389	1,137	**9,214**
ALL MTRC PROGRAMS	**9,107**	**9,028**	**8,473**	**7,974**	**8,275**	**42,856**
ENTIRE PORTFOLIO	**34,353**	**36,537**	**35,839**	**35,388**	**35,874**	**177,991**
MTRC VS. PORTFOLIO (%)	**27%**	**25%**	**24%**	**23%**	**23%**	**24%**

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Previously Approved & New Programs

Program Area	EEC Plan 2014 - 2018 Programs	Approved for 2012 - 2013	New
Residential	Energy Efficient Home Performance Program	X	
	Furnace Replacement Program	X	
	EnerChoice Fireplace Program	X	
	Appliance Service Program	X	
	ENERGY STAR® Water Heater Program	X	
	Low-Flow Fixtures	X	
	New Home Program	X	
	New Technologies Program		X
	Customer Engagement Tool for Conservation Behaviors	X	
	Financing Pilot	X	
Commercial	Space Heat Program	X	
	Water Heating Program	X	
	Commercial Food Service Program	X	
	Customized Equipment Upgrade Program	X	
	EnerTracker Program	X	
	Continuous Optimization Program	X	
	Commercial Energy Assessment Program	X	
	Energy Specialist Program	X	
	Mechanical Insulation Pilot		X
Industrial	Industrial Optimization Program	X	
	Specialized Industrial Process Technology Program		X
Low Income	Energy Savings Kit	X	
	Energy Conservation Assistance Program	X	
	REnEW	X	
	Low Income Space Heat Top-Ups		X
	Low Income Water Heating Top-Ups		X
	Non-Profit Custom Program		X
Conservation Education & Outreach	Residential Education Program	X	
	Commercial Education Program	X	
	School Education Program	X	

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Adequacy Under DSM Regulation

- Low Income
  - 6 programs proposed (3 existing, 3 new)
- Rental Accommodations
  - All programs in Residential Program Area available to rental properties
  - Commercial Program Area
    - Space Heat Program
    - Water Heating Program
    - Commercial Energy Assessment Program
- Education
  - School Education Program includes numerous K-12 and post secondary activities

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Furnace Early Replacement Program

Program Design Element	2012	2013	2014
Customer Incentive	$800	$800	$800
Contractor incentive	$100	$50	$50
# of participants	3031	2000	3700
Duration and timing	Sept 1 - Oct 30	April 22 - Aug 30	April 22 - Aug 30
Eligible products	0.95 AFUE	Energy Star	Energy Star
LiveSmartBC	Standalone/ Combinable	Ended	?

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Thermal Energy Services Directives

- Funds for TES projects in a separate deferral account
- Independent third party review
  - Proposal developed with PWC for consideration
    - Customers will be asked up front if they are using a third party provider for thermal energy services
    - Application goes to PWC for review
    - PWC determines incentive amount, notifies FEU
    - FEU notifies customer
  - Applies to ALL thermal energy services projects, regardless of supplier
  - Also annual review to ensure fairness of historical incentive payments
  - Estimated annual cost: $140,000 - $260,000

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Other directives

- Collaboration with other utilities on CEO
- BC Hydro
  - General EEC collaboration MOU with BCH
  - Joint branding guidelines
  - Joint outreach activity 2013
  - Sponsorship information sharing
- FortisBC
  - All activity in SST branded “FortisBC PowerSense”
  - Joint collateral
  - Joint outreach activity started in 2012
  - Sponsorship information sharing

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Other directives

- Stakeholder Terms of Reference
  - Accepted
- Evaluation Plan and Measurement and Verification Protocol
  - Final draft being circulated
  - Evaluation budget at about 4 percent of overall funding ask
  - IPMVP
- Attribution rules for collaborative programs

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Thank you

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Fortis BC Utilities
2014-2018 FEI PBR
Customer and Demand Forecast Workshop

May15th, 2013

David Bailey, P.Eng
Customer and Energy Forecast Manager

Preliminary Results

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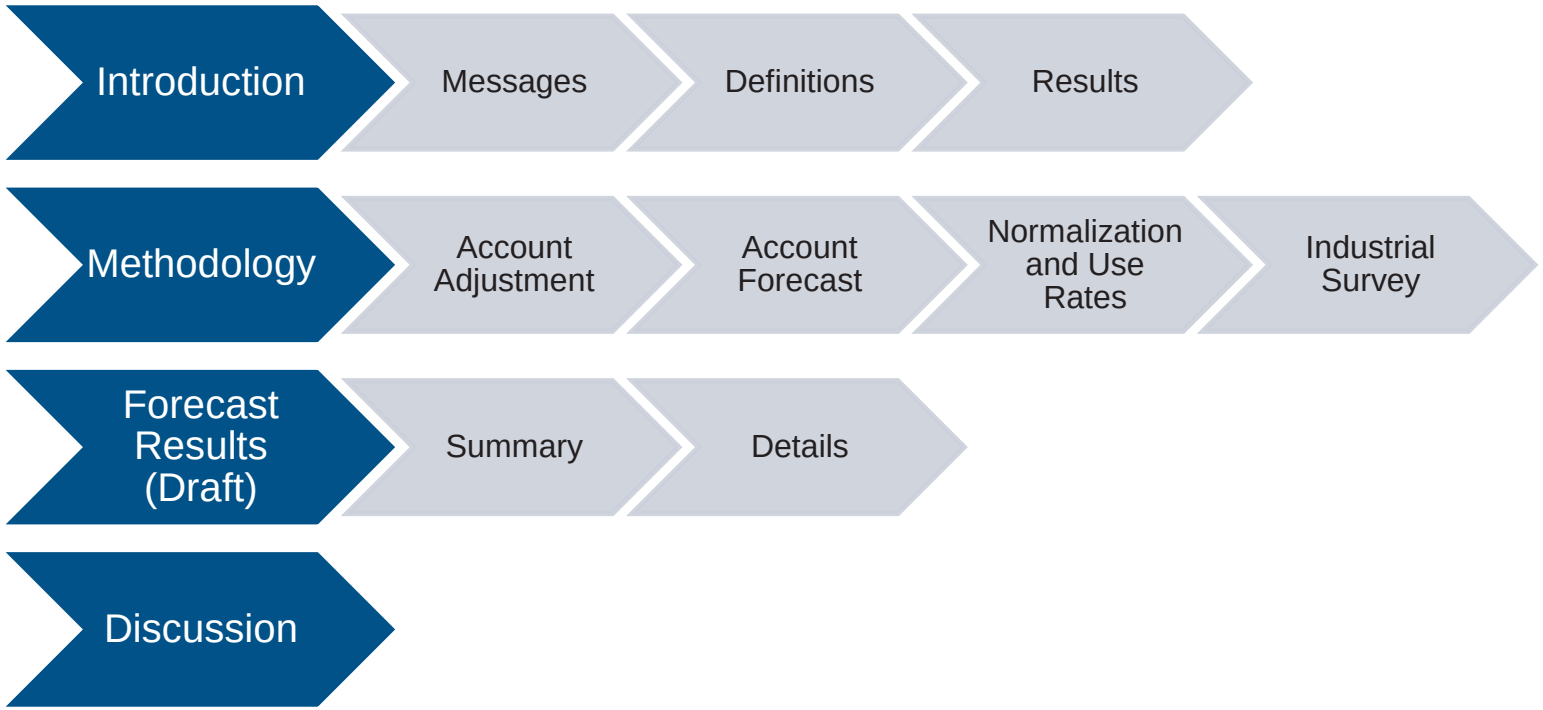
Agenda


Introduction
Messages
Definitions
Results
Methodology
Account Adjustment
Account Forecast
Normalization and Use Rates
Industrial Survey
Forecast Results (Draft)
Summary
Details
Discussion

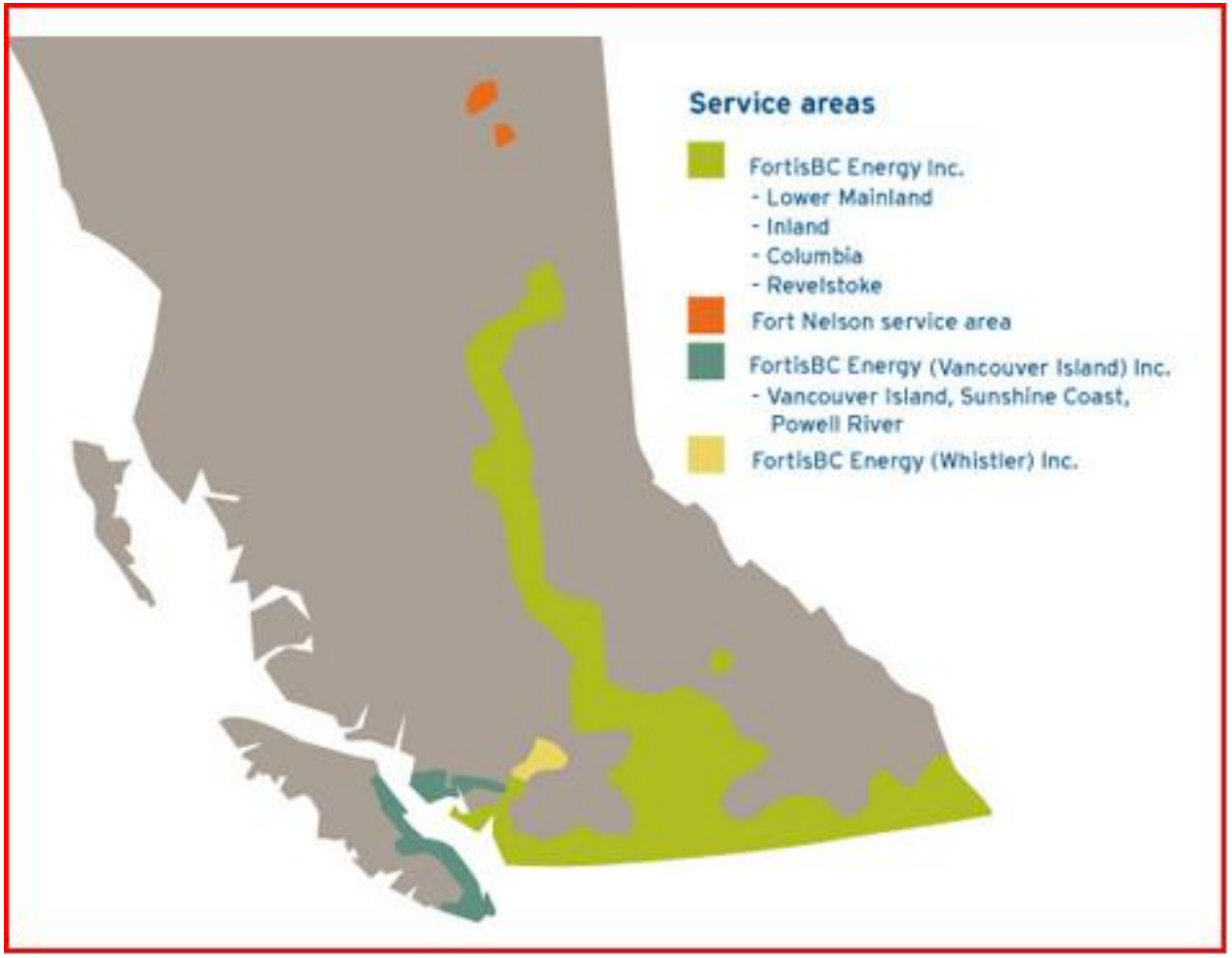
Messages

Demand is stable	• Residential is flat • Commercial is up • Industrial is flattening
Methodologies are unchanged	• Forecast software (FIS) in use for a decade • Methods remain unchanged
Improved Industrial Survey	• Online survey leads to better response rates
Annual Review	• We will be re-forecasting each year • We present 5 years but 2014 is most important

Definitions

CBOC - Conference Board of Canada	• Long range housing starts forecasts • SFD: Single family dwelling • MFD: Multi-family dwelling
Normalization	• Demand has a strong correlation to weather alone • Remove weather from the forecast so we can see what else is happening
UPC – Use Per Customer	• Average annual gas use per customer in a rate schedule

Mainland Region & Rate Schedules

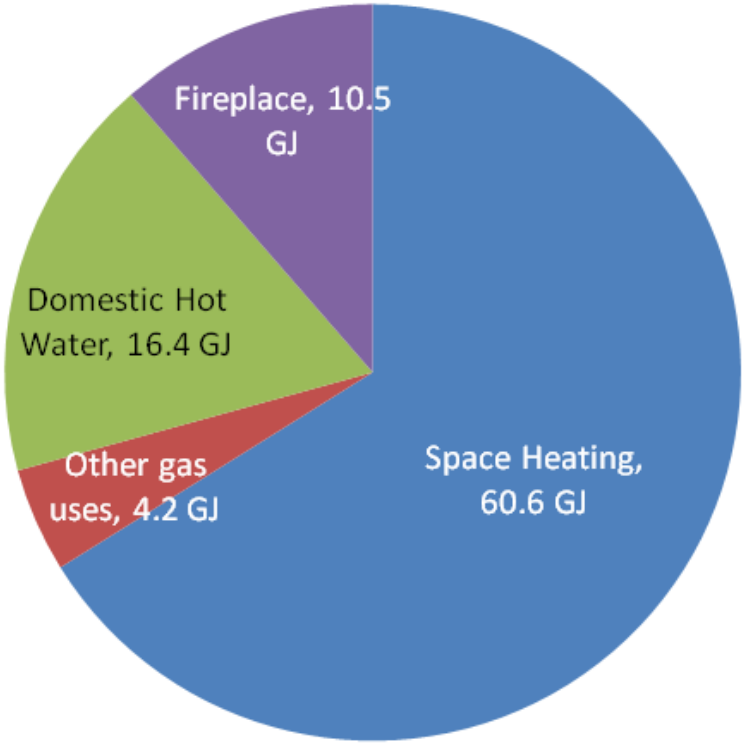


Mainland Region & Rate Schedules

Rate Group	Rate Schedules	Description
Residential	1	Single-family residences and separately metered multi-family residences
Commercial	2, 3, 23	Commercial customers with annual consumption typically around 2,000 GJ annually
Industrial	4,5,6,7,22,25,26, 27	Typically 5,000 GJ and above.

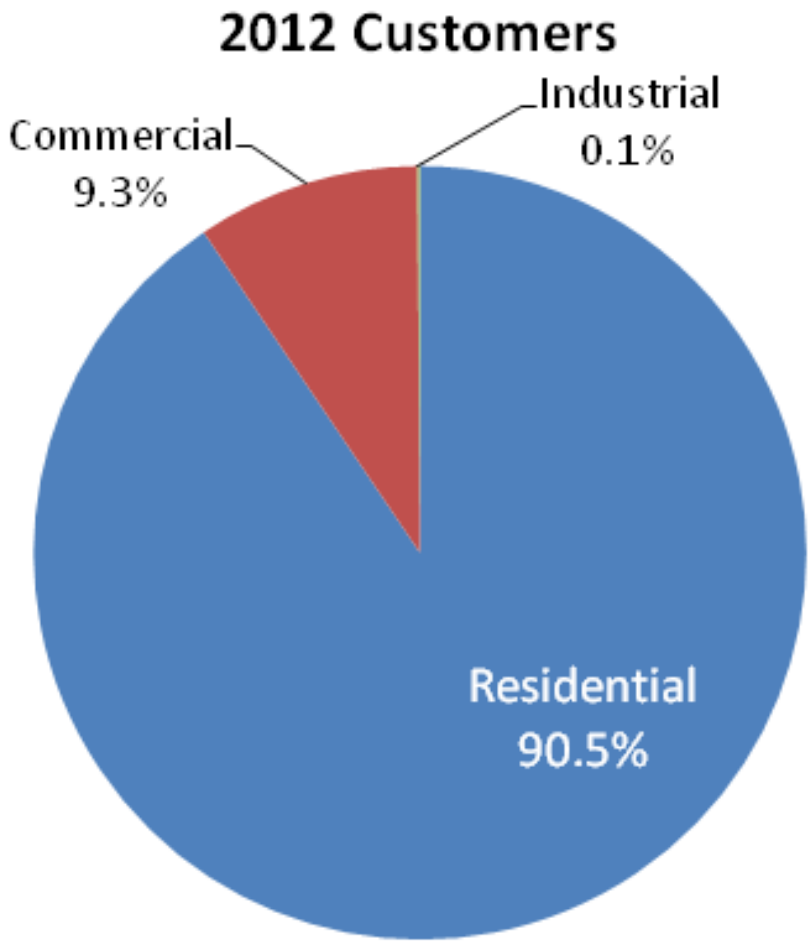
Energy Measurement - GJ

- Gigajoule – GJ
  - A Mainland residential customer uses approx. 92 GJ/yr
  - Residential demand approx. 70,000,000 GJ/yr.
- Terajoule – TJ = 1,000 GJ
  - Commercial customers like a hotel might use 5 TJs
- Petajoule – PJ = 1,000 TJ
  - Industrial customers
  - Some use more than 1 PJ/yr.
  - Total FEI demand approx. 178 PJs.



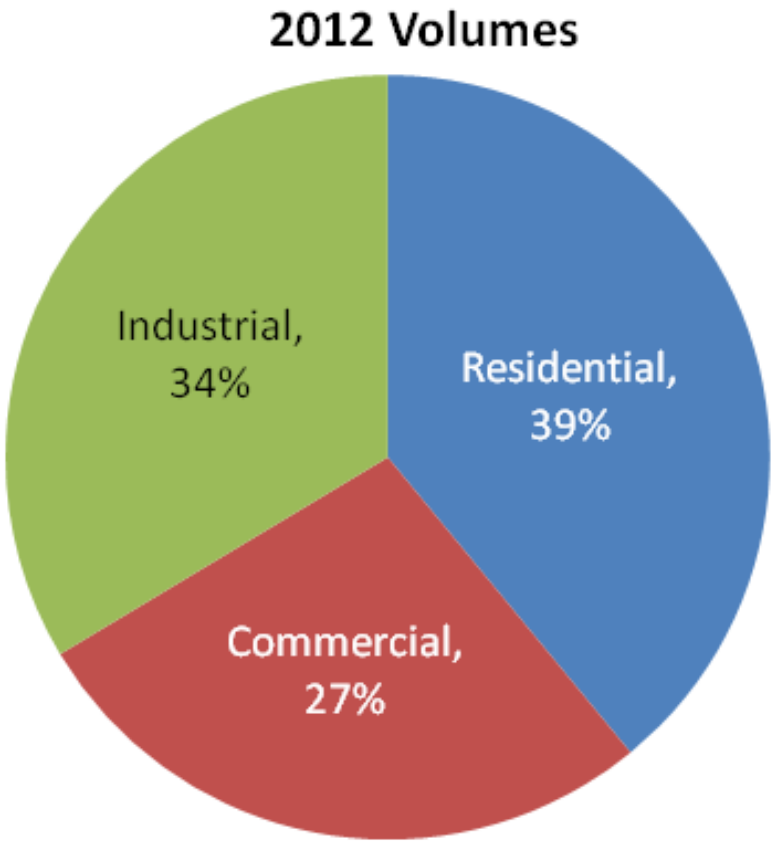
Typical consumption by appliance, GJ
Source: 2010 CPR

Customer and Volume Profile



- 90% of our customers are residential
- 1/10th of a percent are industrial

Customer and Volume Profile



- 90% of our customers are residential
- 1/10th of a percent are industrial
- Volume splits are more balanced

Forecast Process

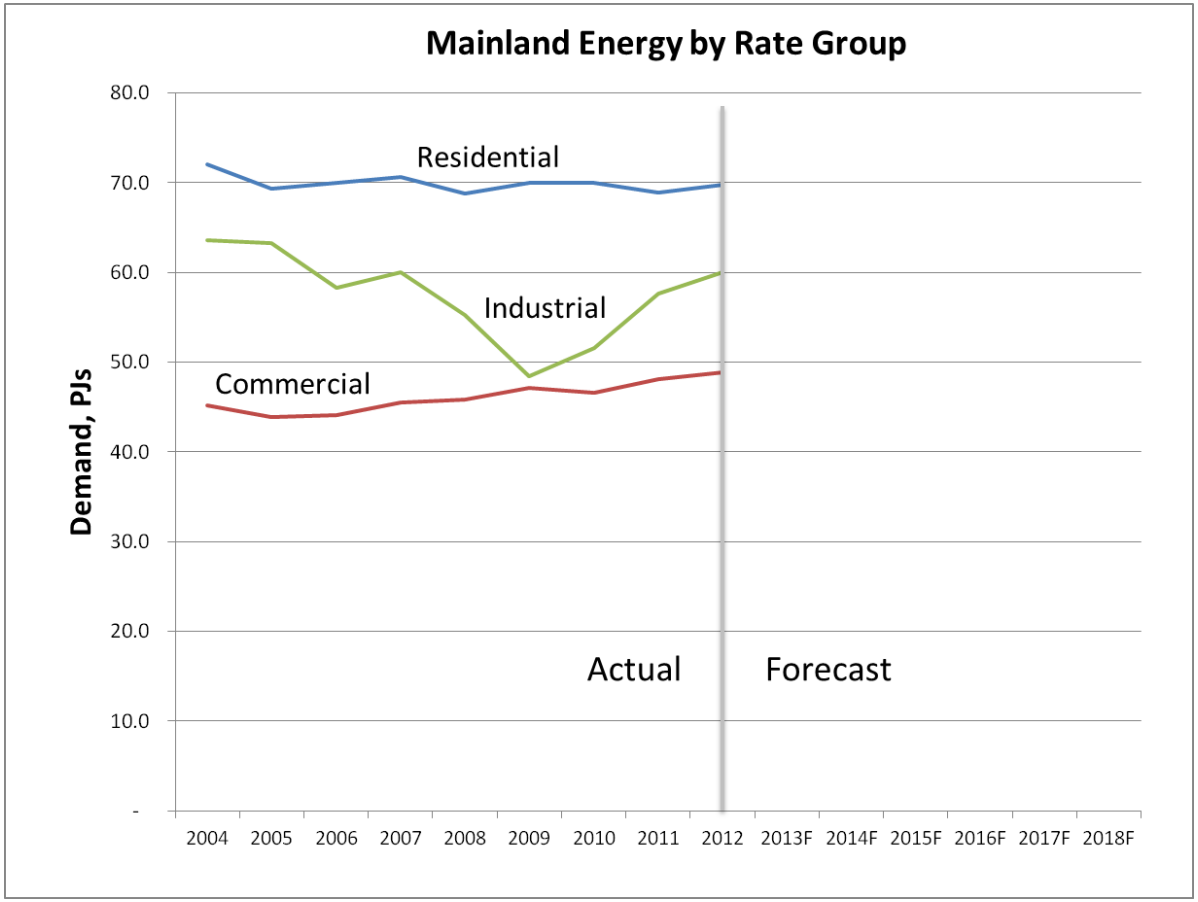
Forecast

- Prepare traditional forecast using:
  - CBOC housing starts
  - Historic billing data
  - Weather
  - Industrial Survey

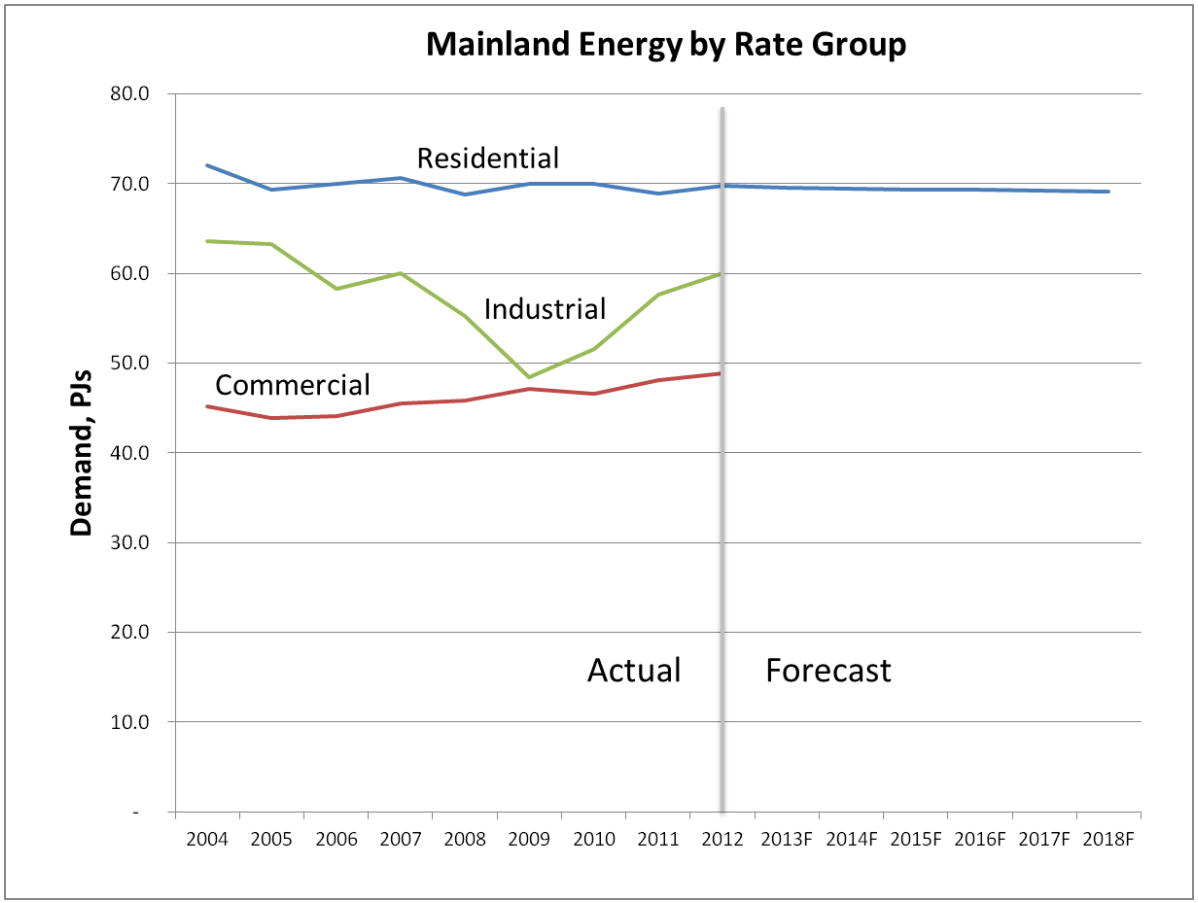
Validate

- Use normalized actuals to QA our forecast

Results Summary

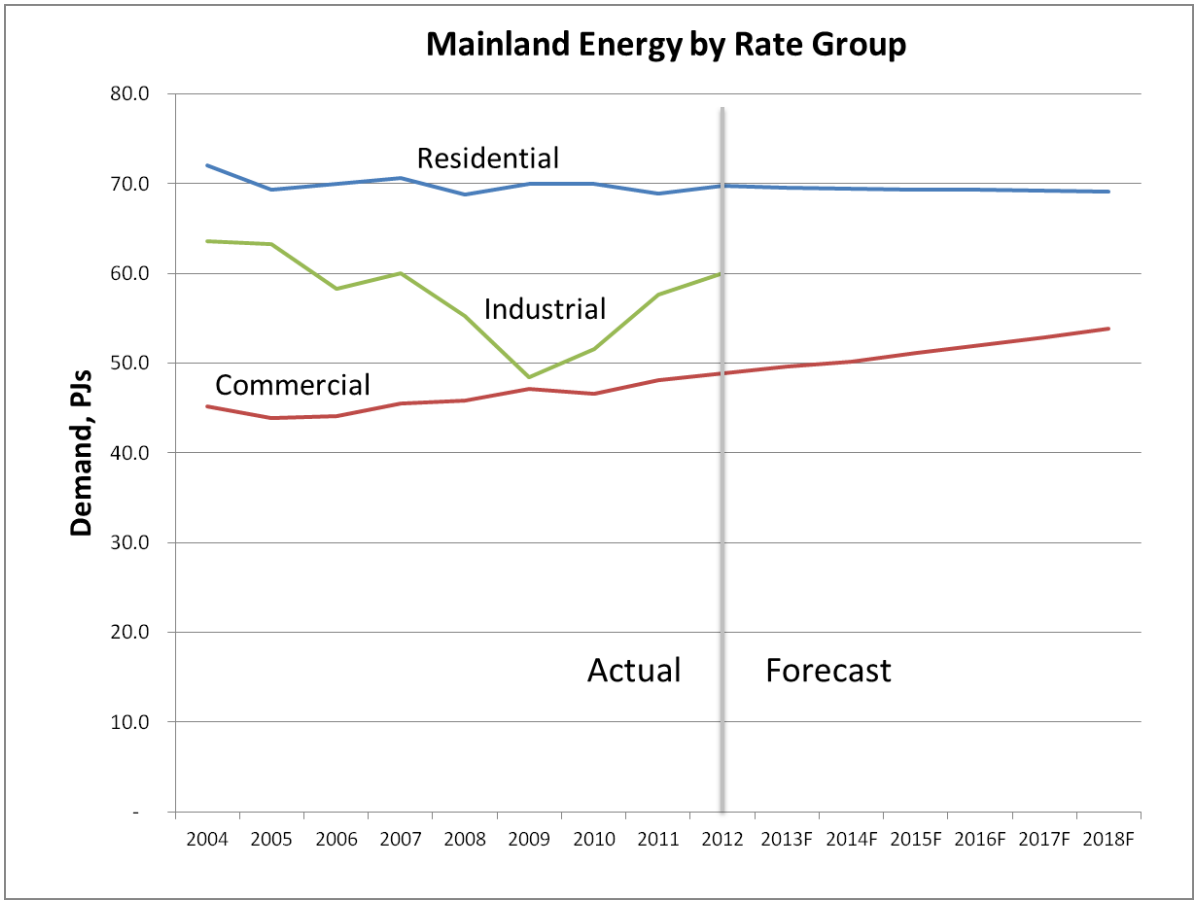


Results Summary



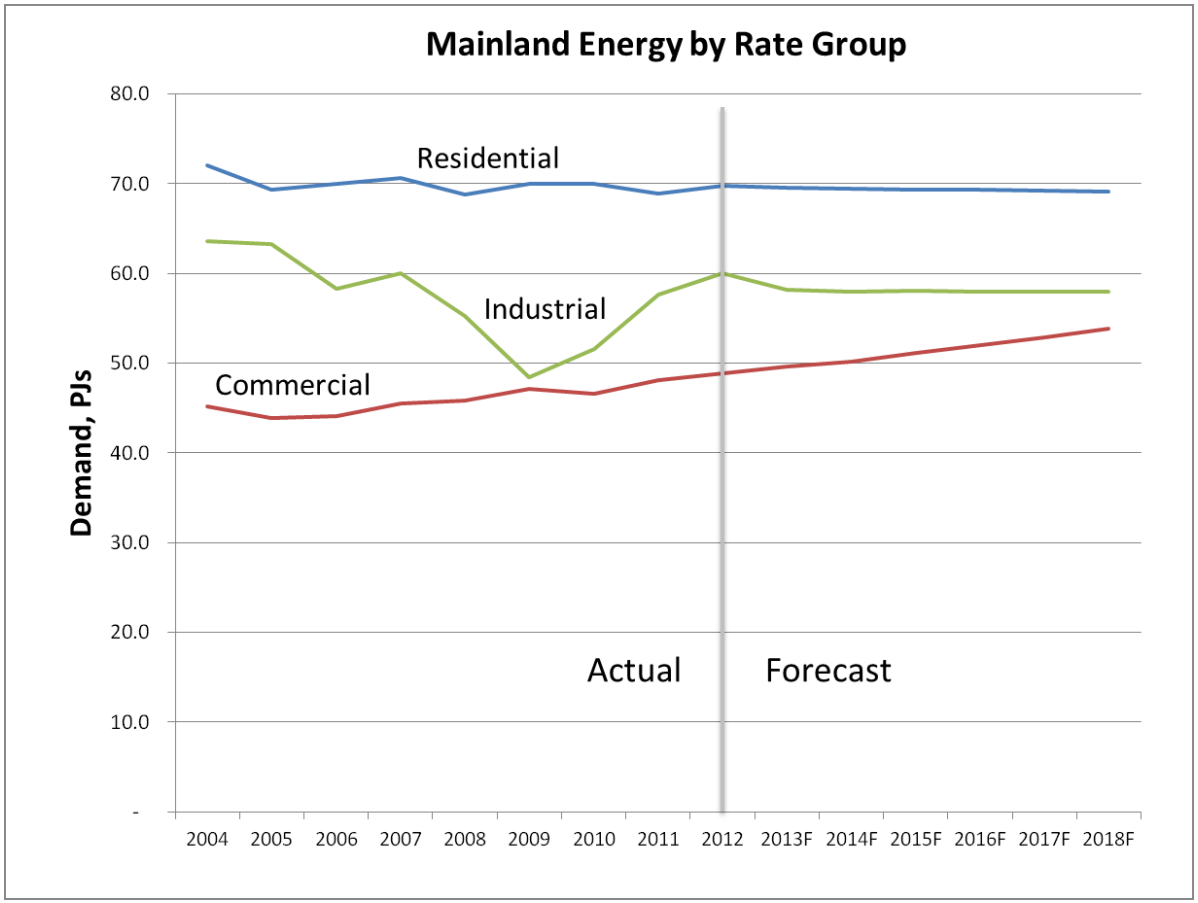
- Residential falling as UPC decline outpaces additions

Results Summary



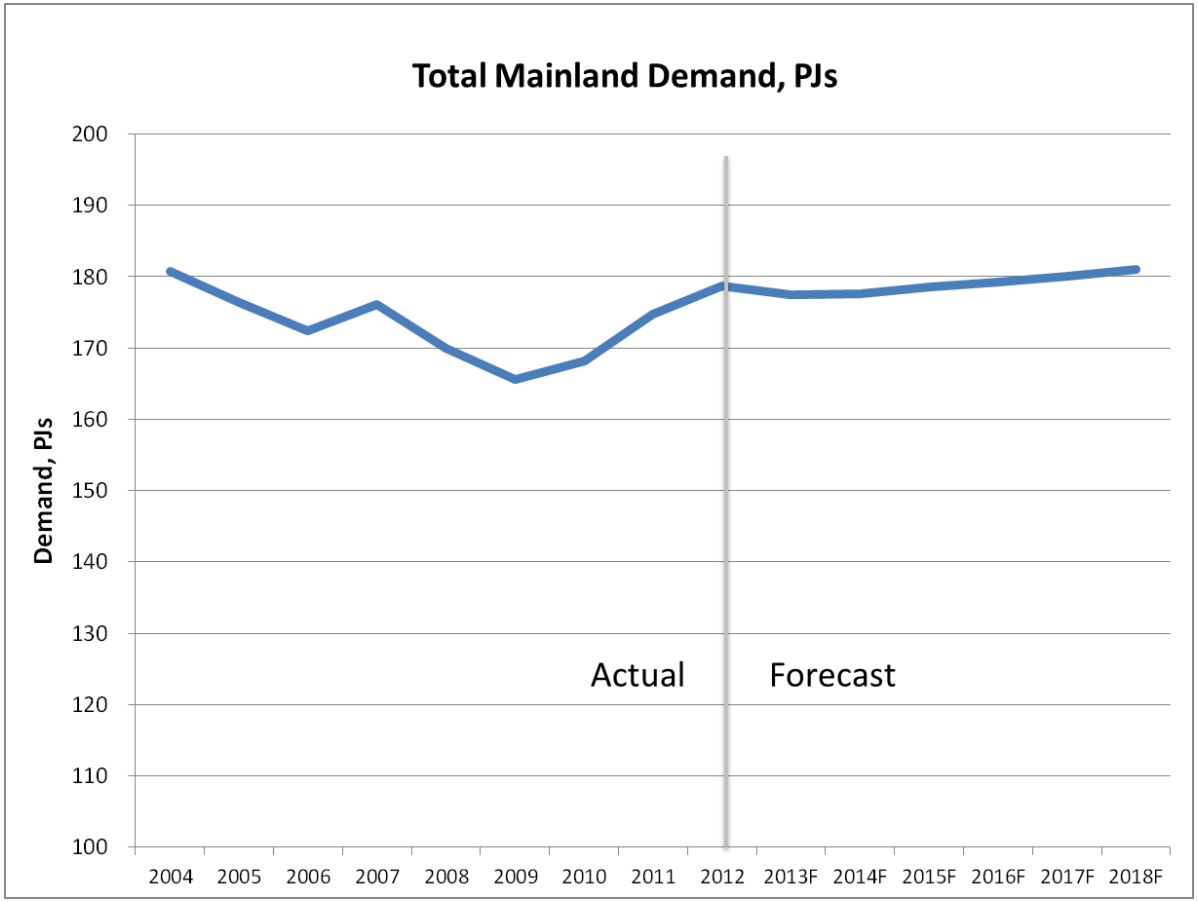
- Residential falling as UPC decline outpaces additions
- Commercial up lead by increasing UPC

Results Summary



- Residential falling as UPC decline outpaces additions
- Commercial up lead by increasing UPC
- Industrial flat after slight decline in 2014

Results Summary



- Residential falling as UPC decline outpaces additions
- Commercial up lead by increasing UPC
- Industrial flat after slight decline in 2014

Methodology

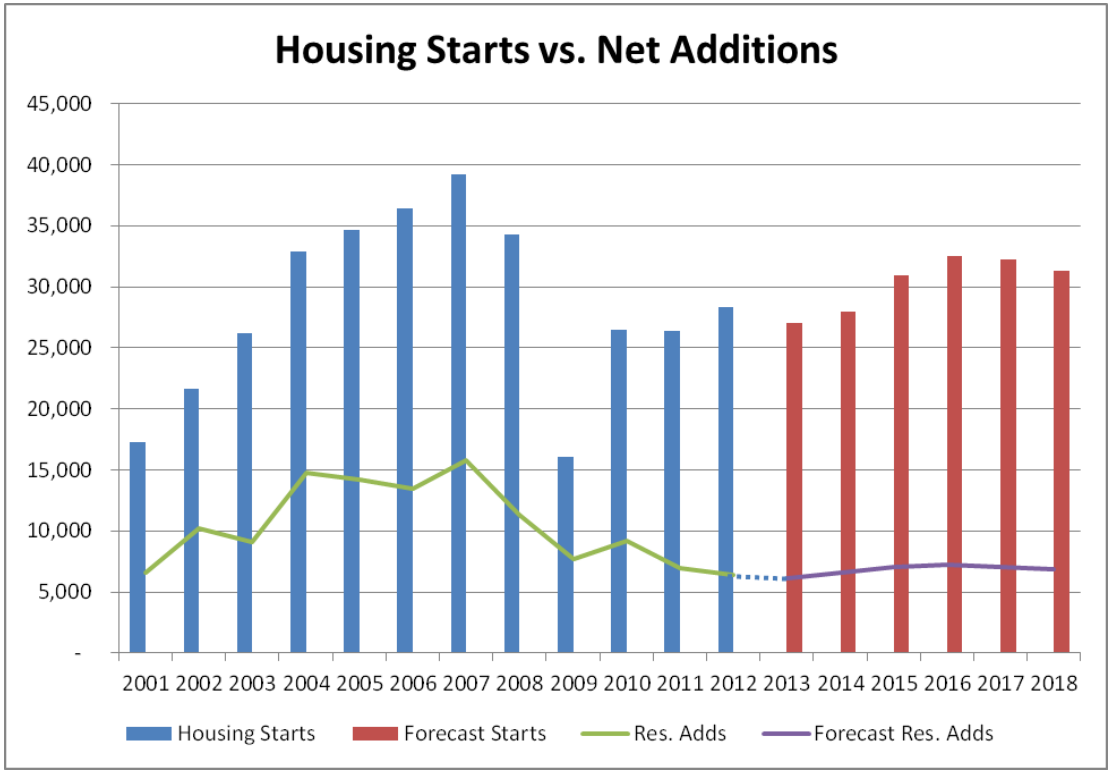
Methodology Agenda

Methodology Review

1. Customer Account Adjustment
2. Account Additions Forecast
3. Weather Normalization and UPC
4. Industrial Survey

Methodology Review

Rate Group	Accounts	Use Rate	Demand
Residential	CBOC forecast by dwelling type	Trend normalized actual UPC	Product of Accounts and Use Rates



Methodology Review

Rate Group	Accounts	Use Rate	Demand
Residential	CBOC forecast by dwelling type	Trend normalized actual UPC	Product of Accounts and Use Rates
Commercial	Average actual additions	Trend normalized actual UPC	Product of Accounts and Use Rates

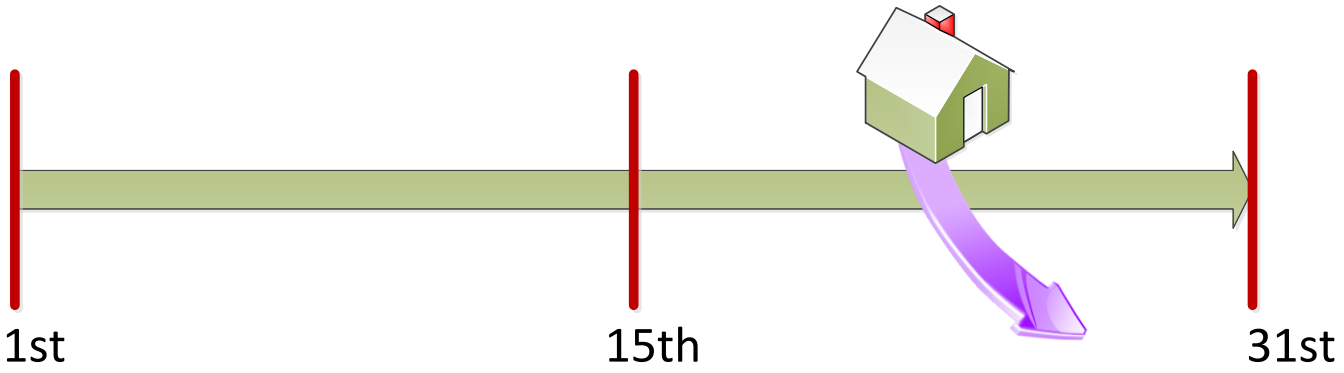
Methodology Review

Rate Group	Accounts	Use Rate	Demand
Residential	CBOC forecast by dwelling type	Trend normalized actual UPC	Product of Accounts and Use Rates
Commercial	Trend actual additions	Trend normalized actual UPC	Product of Accounts and Use Rates
Industrial			Survey industrial customers for demand forecasts

1) Customer Account Adjustment

Previous CIS	New CIS
• Customers were counted at month-end • You were counted if you were a customer for at least 1 day	• Take a snapshot on the 15th • To be counted you have to be a customer on the 15th

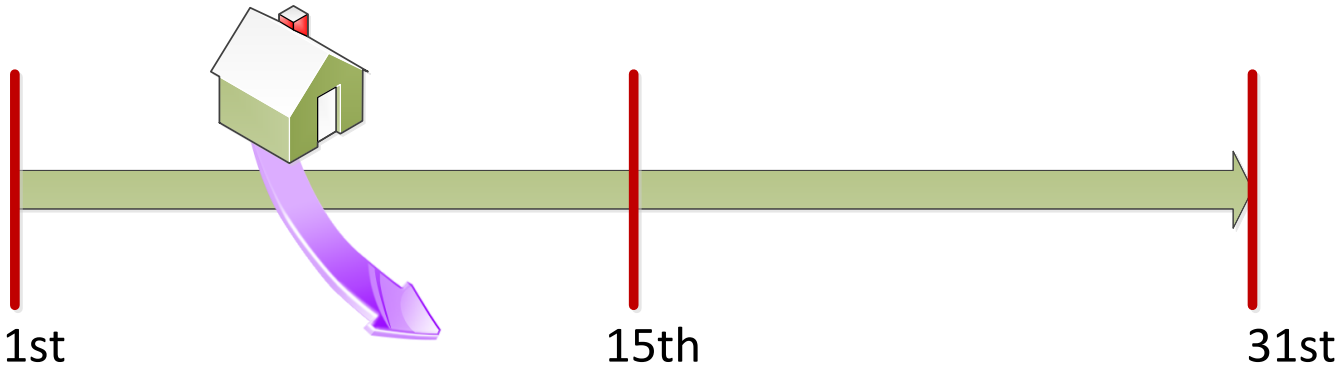
1) Customer Account Adjustment



Move out on the 20th…

Old CIS	New CIS
1	1

1) Customer Account Adjustment



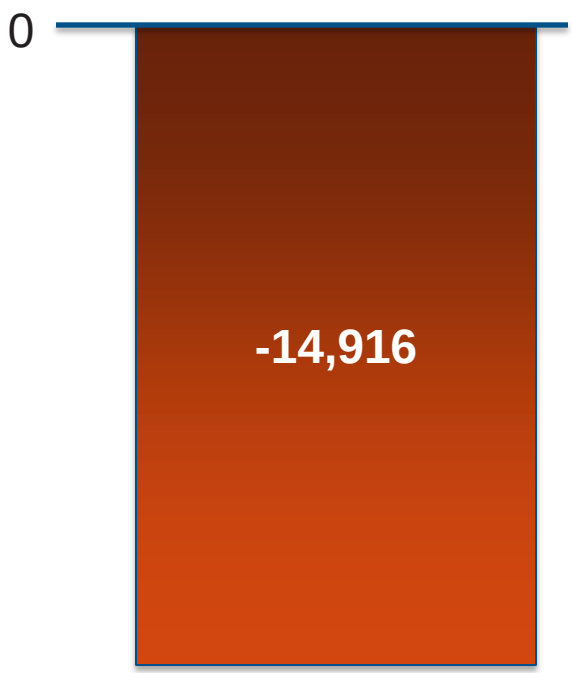
Move out on the 10th…

Old CIS	New CIS
1	0

Different definitions result in:

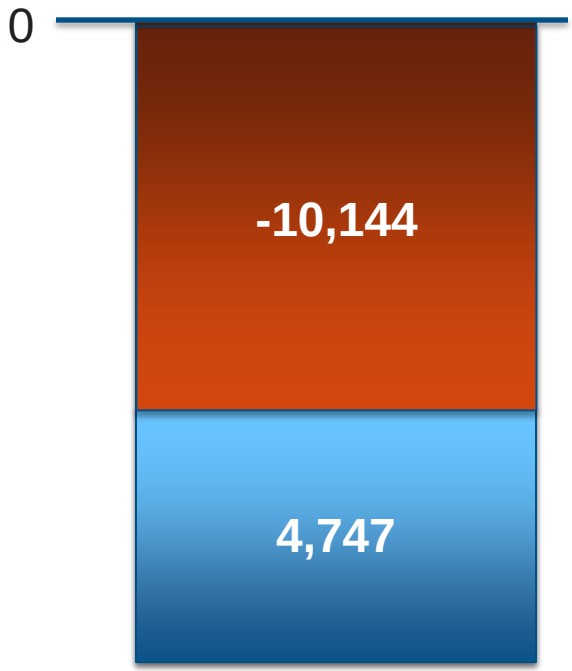
- Different customer counts
- BUT the gas volume is the same…
- So UPC *appears* to go up

2) Account Additions Forecast



- 2012 CIS adjustment -14,916

2) Account Additions Forecast



- 2012 CIS adjustment -14,916
- Add 4,747 new customers
  - The new customers are the starting point for the additions forecast
- Net additions for 2012: -10,144
  - Total customer count drops so UPC goes up

2) Account Additions Forecast

2) Account Additions Forecast

CBOC Growth Rates

2012

Rate 1 MFD = 617
Rate 1 SFD = 3,858
Comm. = 272

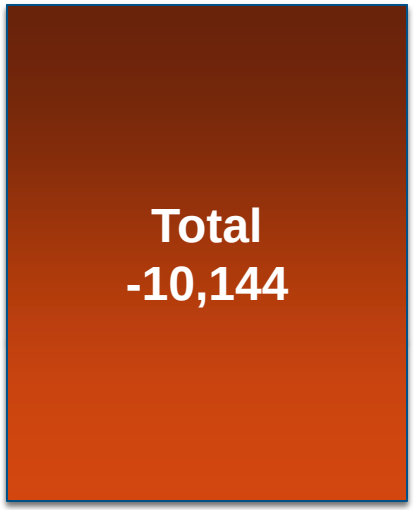
2013	2014	2015	2016	2017	2018
-4%	2%	12%	6%	0%	-3%
-5%	7%	7%	2%	-3%	-3%

- No CBOC forecast
- We use 3 year average

2014

Rate 1 MFD = 598
Rate 1 SFD = 3,998
Comm . = 388

2) Account Additions Forecast

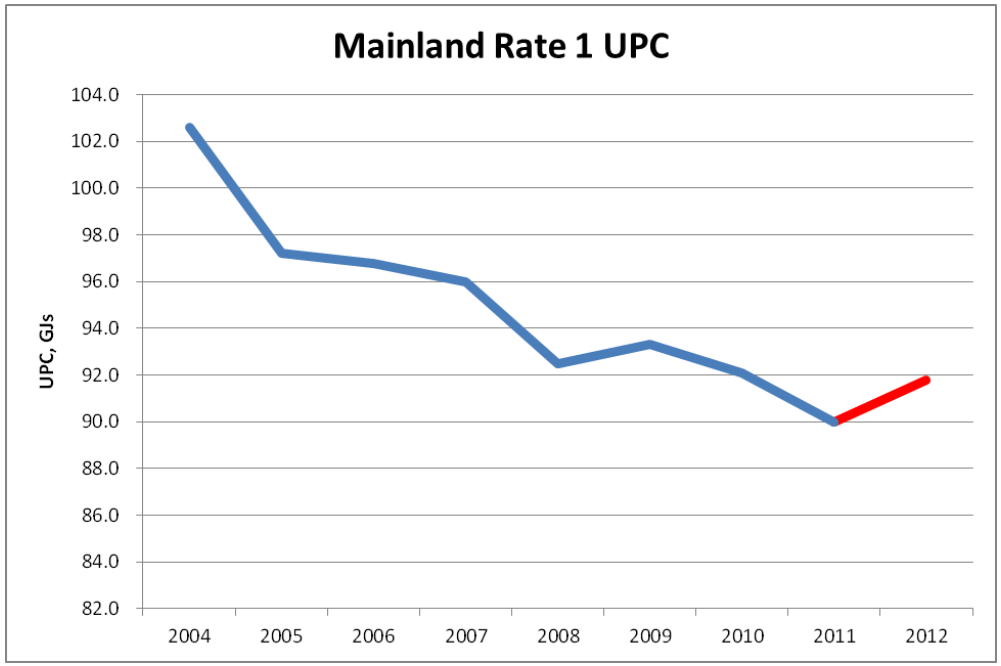


2) Account Additions Forecast

2) Account Additions Forecast

Res
-5,841

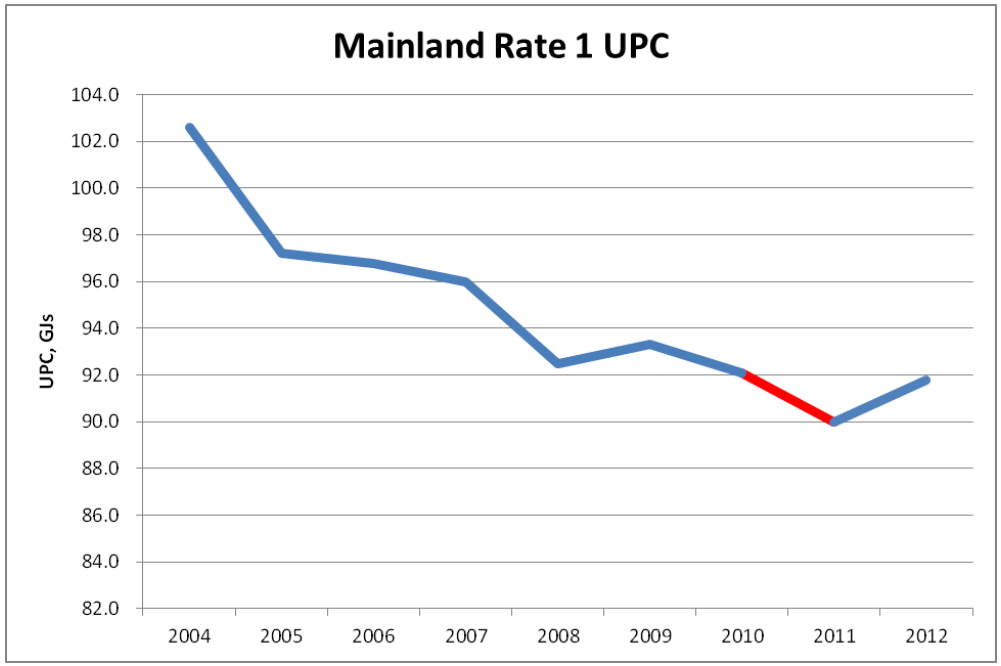
	2011	Change	2012
Energy (TJ)	68,932	821	69,753
Accounts	765,553	-5,841	759,712
UPC	90.0	+1.8	91.8



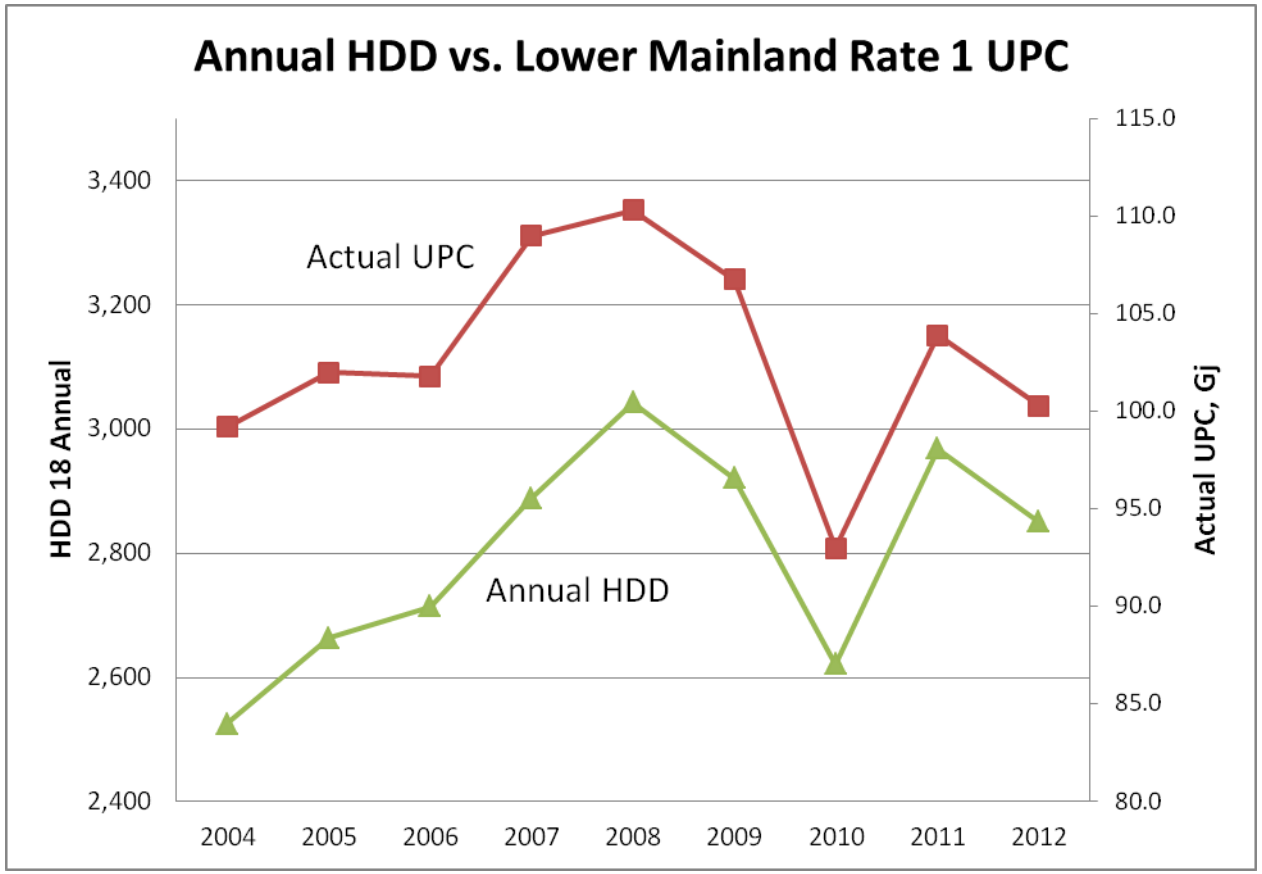
2) Account Additions Forecast

Res
-5,841

	2010	Change	2011
Energy (TJ)	70,041	-1,109	68,932
Accounts	760,559	4,994	765,553
UPC (GJ)	92.0	-2.0	90.0

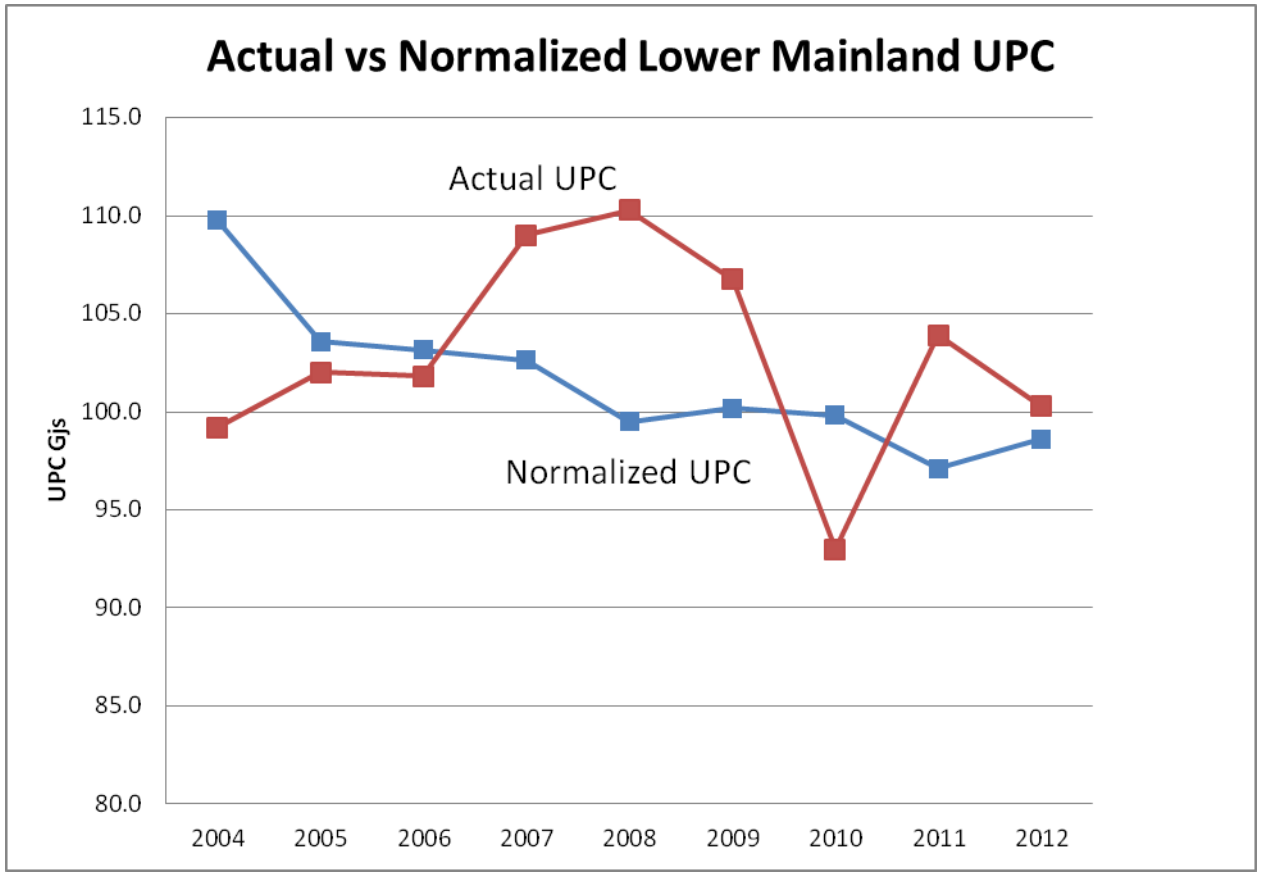


3) Weather Normalization



- Residential and commercial UPCs are weather sensitive
- We cannot isolate other factors until we remove weather
- We can *only* compare normalized use rates

3) Weather Normalization

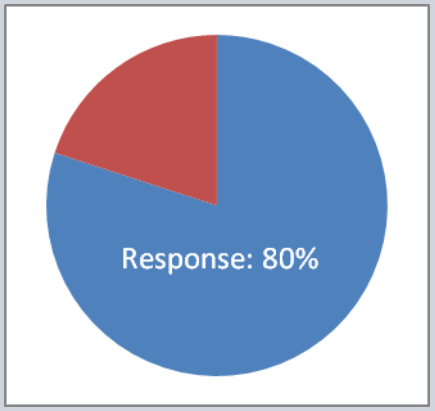


- Residential and commercial UPCs are weather sensitive
- We cannot isolate other factors until we remove weather
- We can *only* compare normalized use rates

4) Industrial Survey

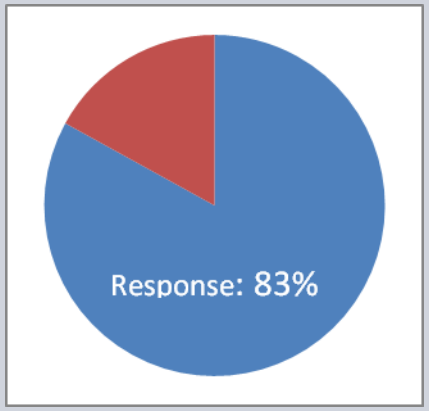
Version 1

- Manual fax, data entry, fax back and rekey
- Effort: High



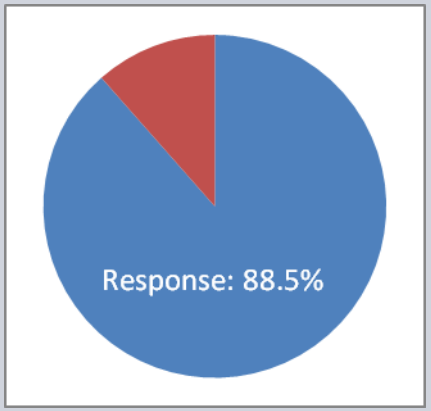
Version 2

- Email Excel
- Effort: Moderate



Version 3

- Web based
- Effort: Low

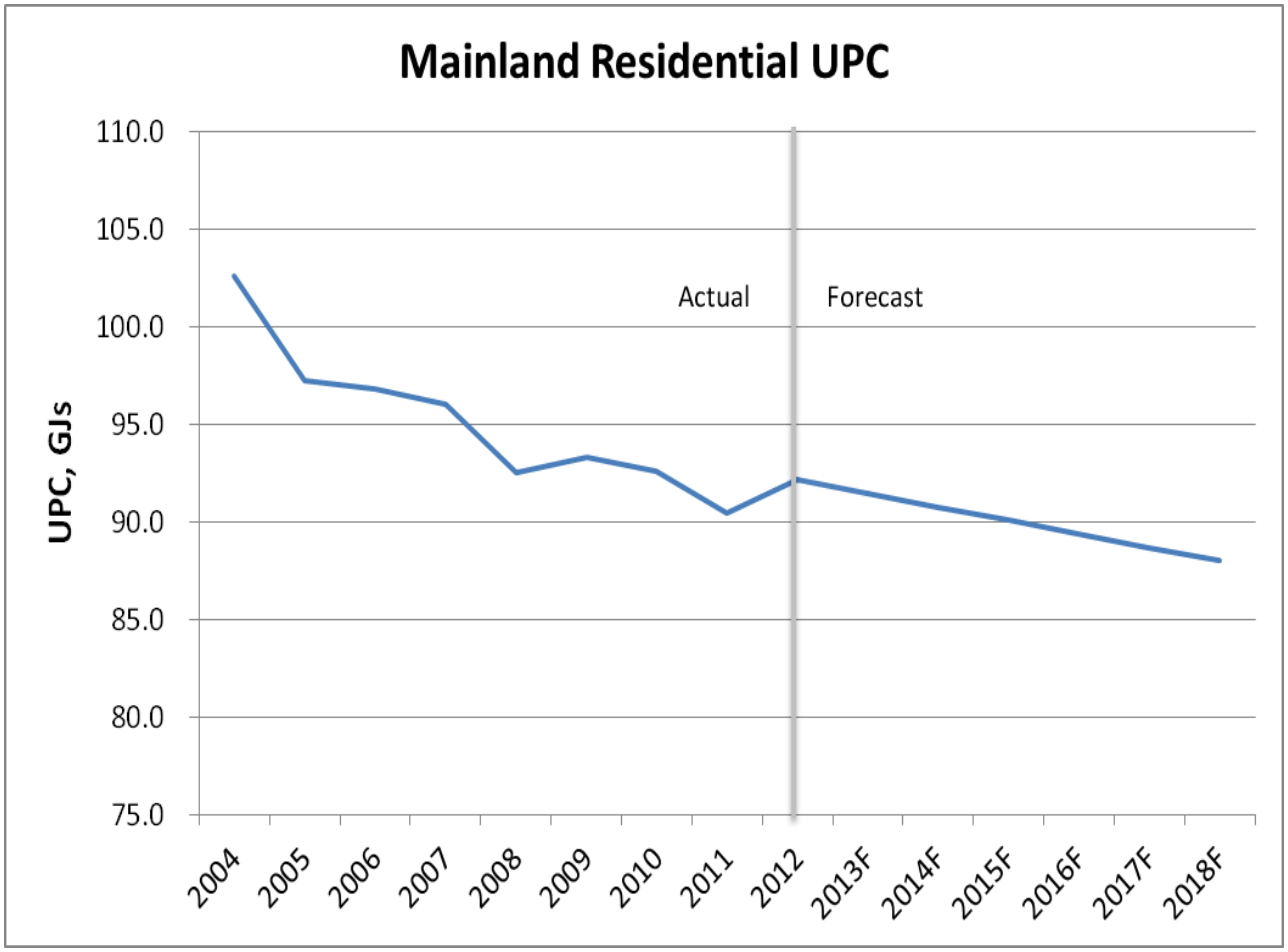


4) Industrial Survey

- Each customer gets a unique email
- Email contains a link
- Private
- Secure
- Results saved directly to database
  - No staff time spent re-keying
- Live demo…

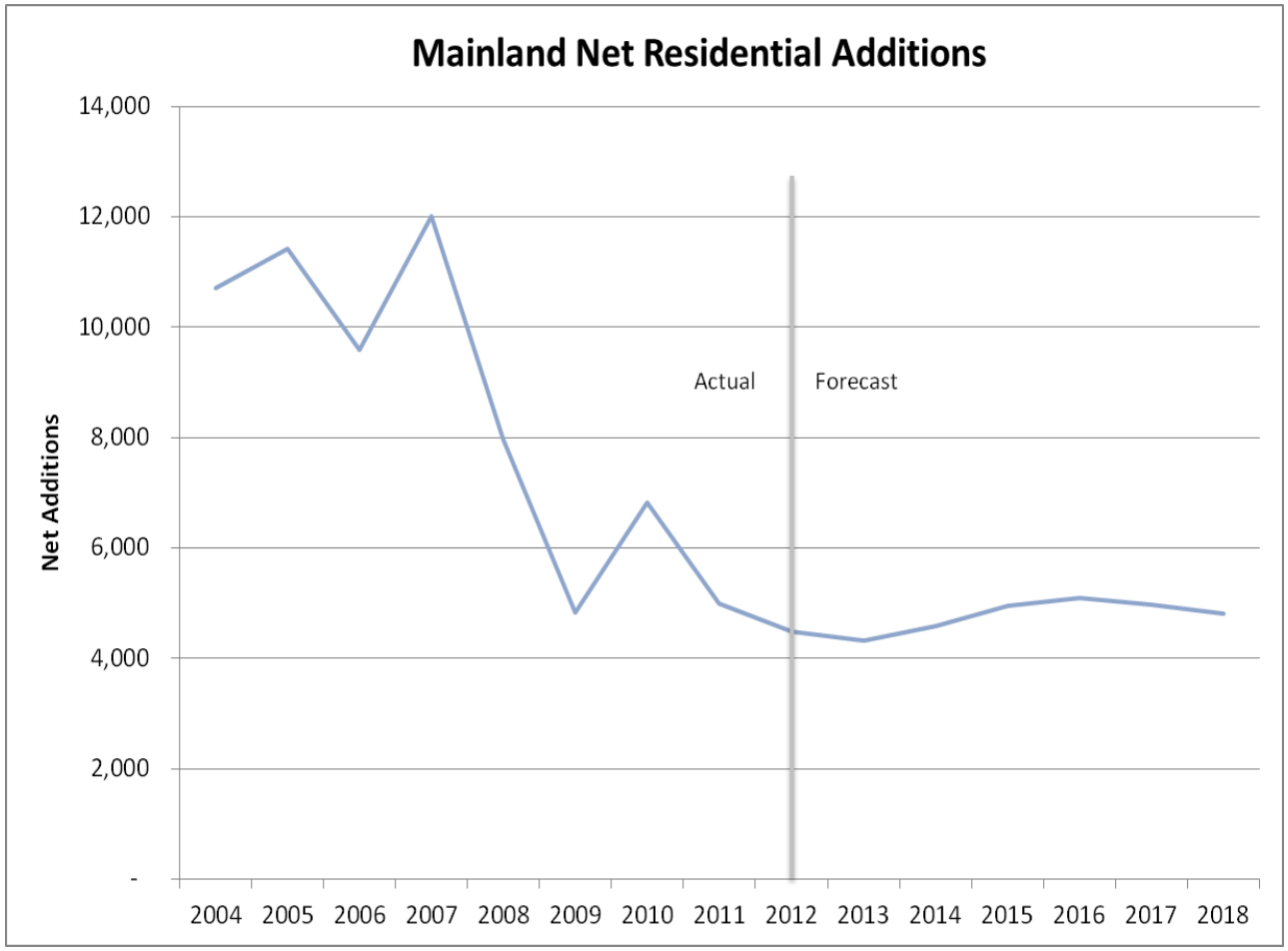
Forecast Results (Draft)

Mainland Residential



- 2012 UPC affected by CIS
- Net additions reflect CBOC forecast
- Demand continues gradual decline

Mainland Residential



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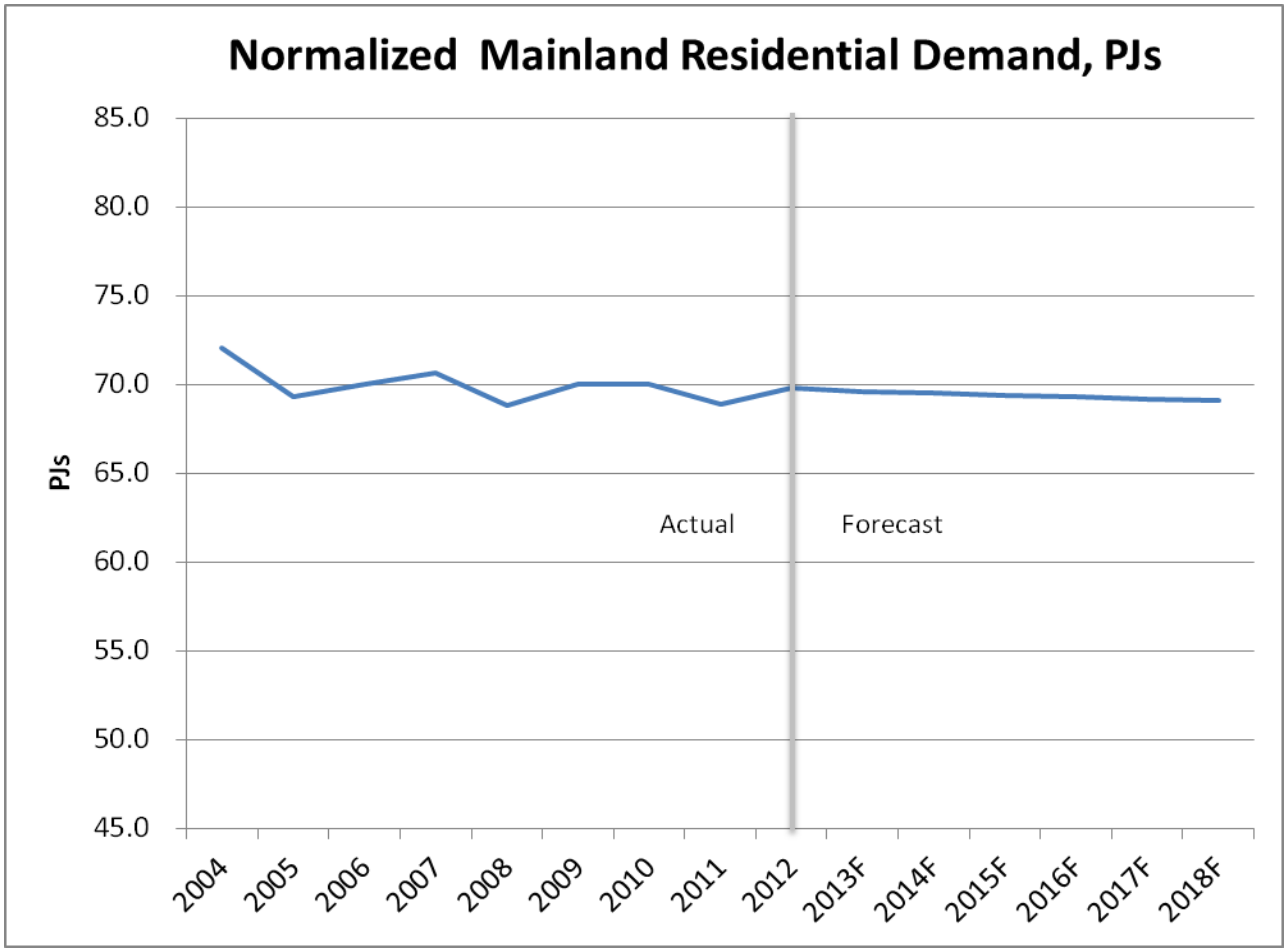
Mainland Residential



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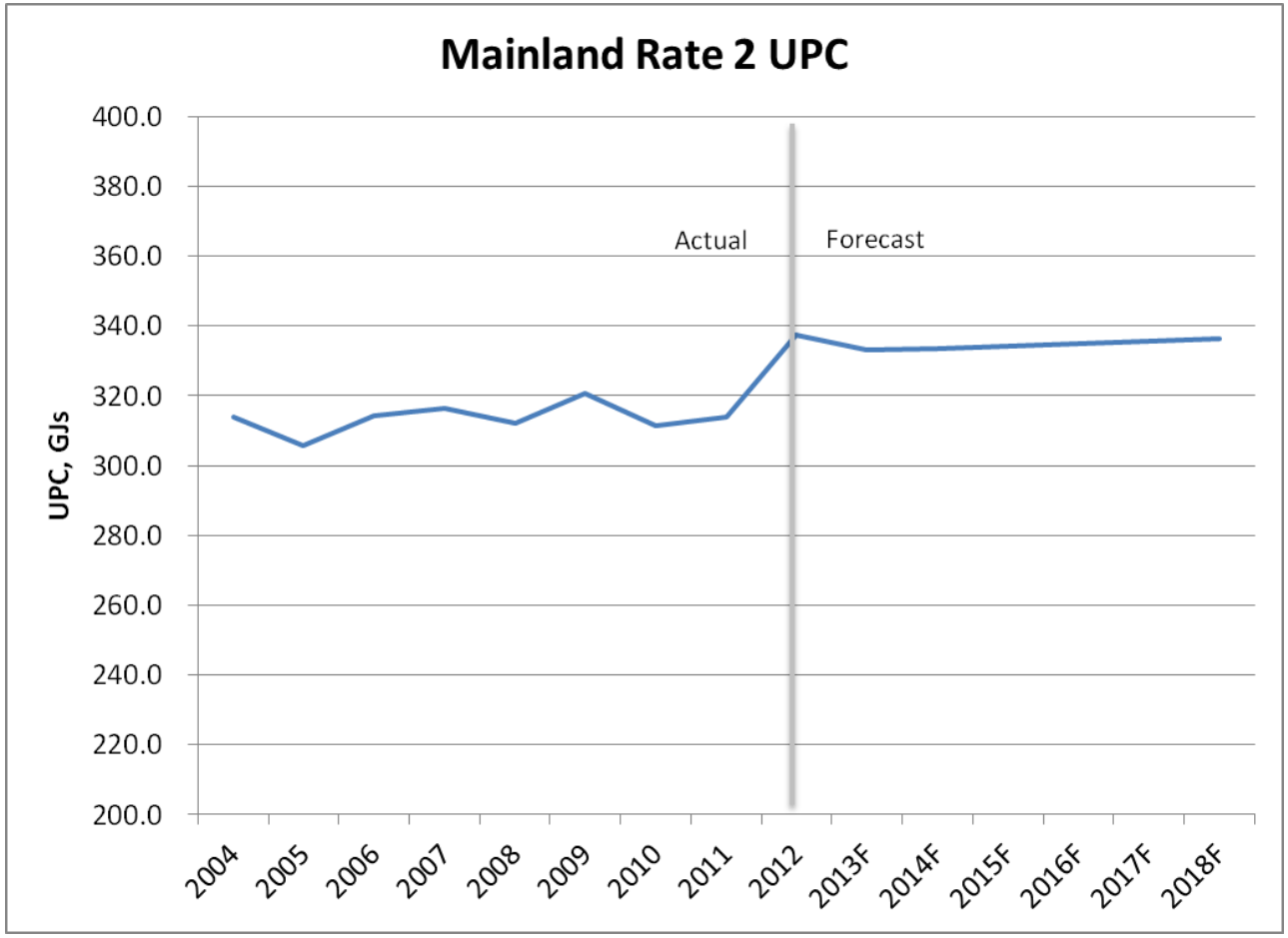
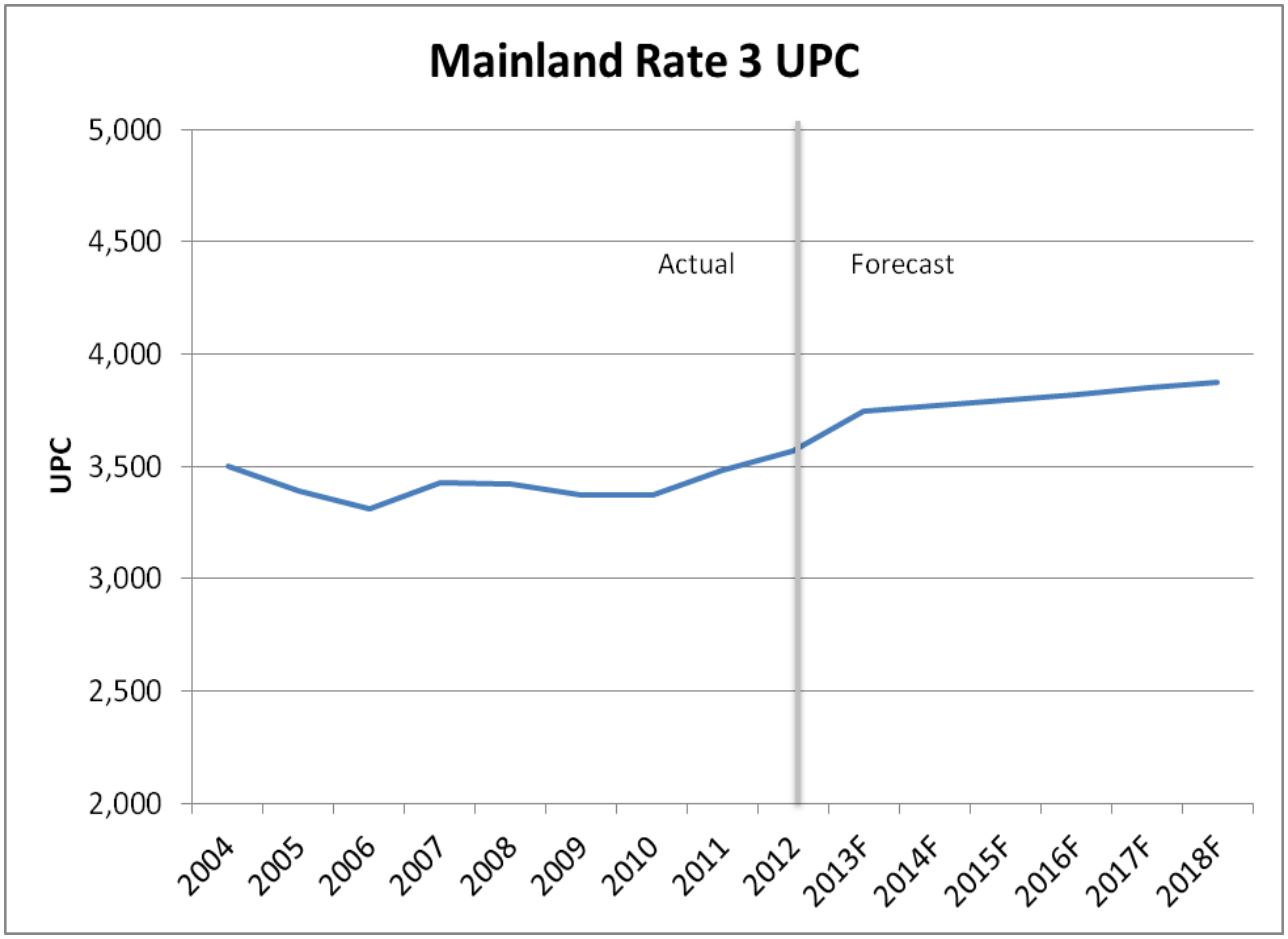
Mainland Commercial



- Rate 2 UPC shows effects of CIS change
- Rate 23 unaffected by CIS
- Forecast net additions consistent with prior years
- Demand increasing for all commercial rate schedules

Mainland Commercial



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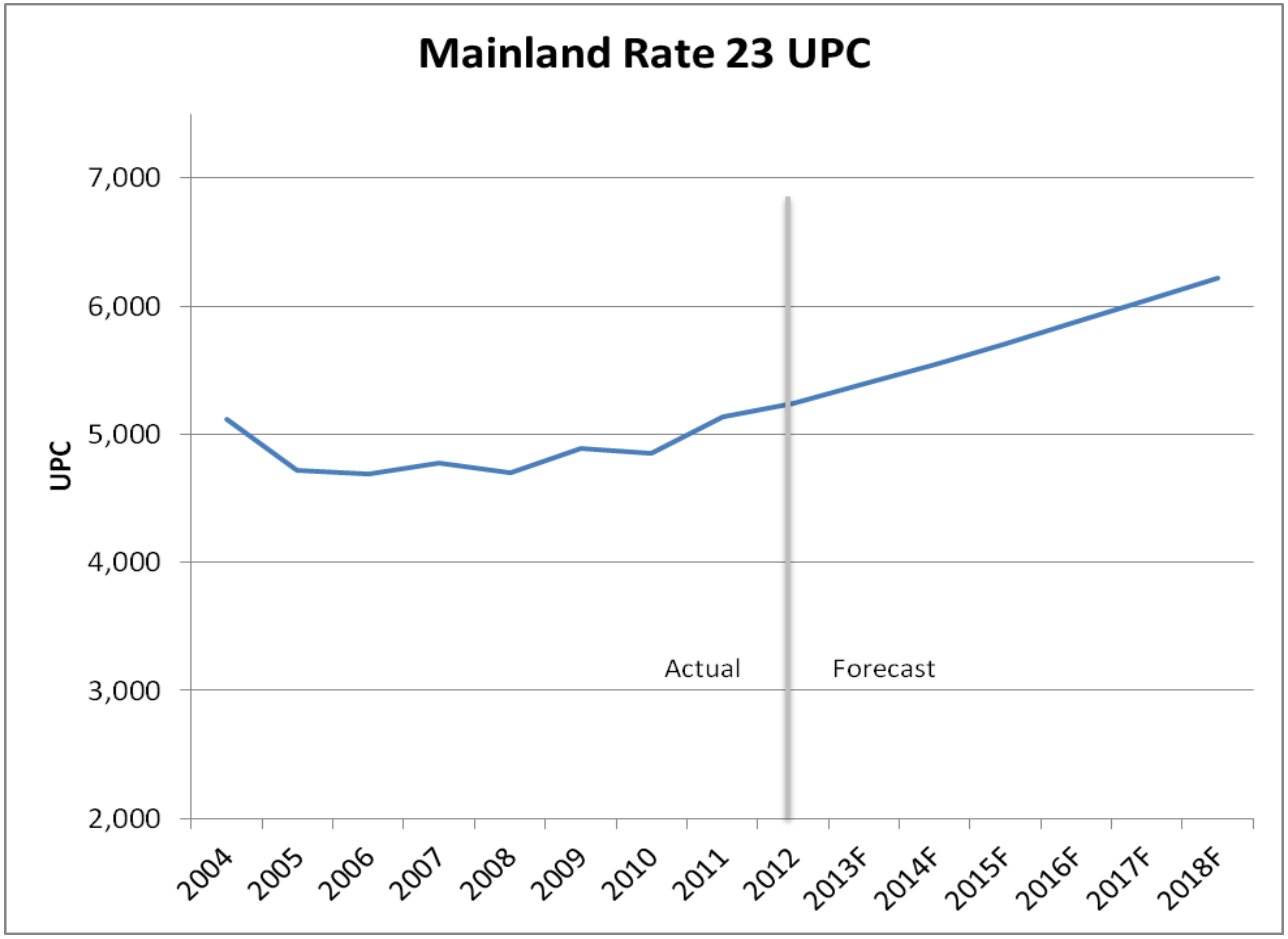

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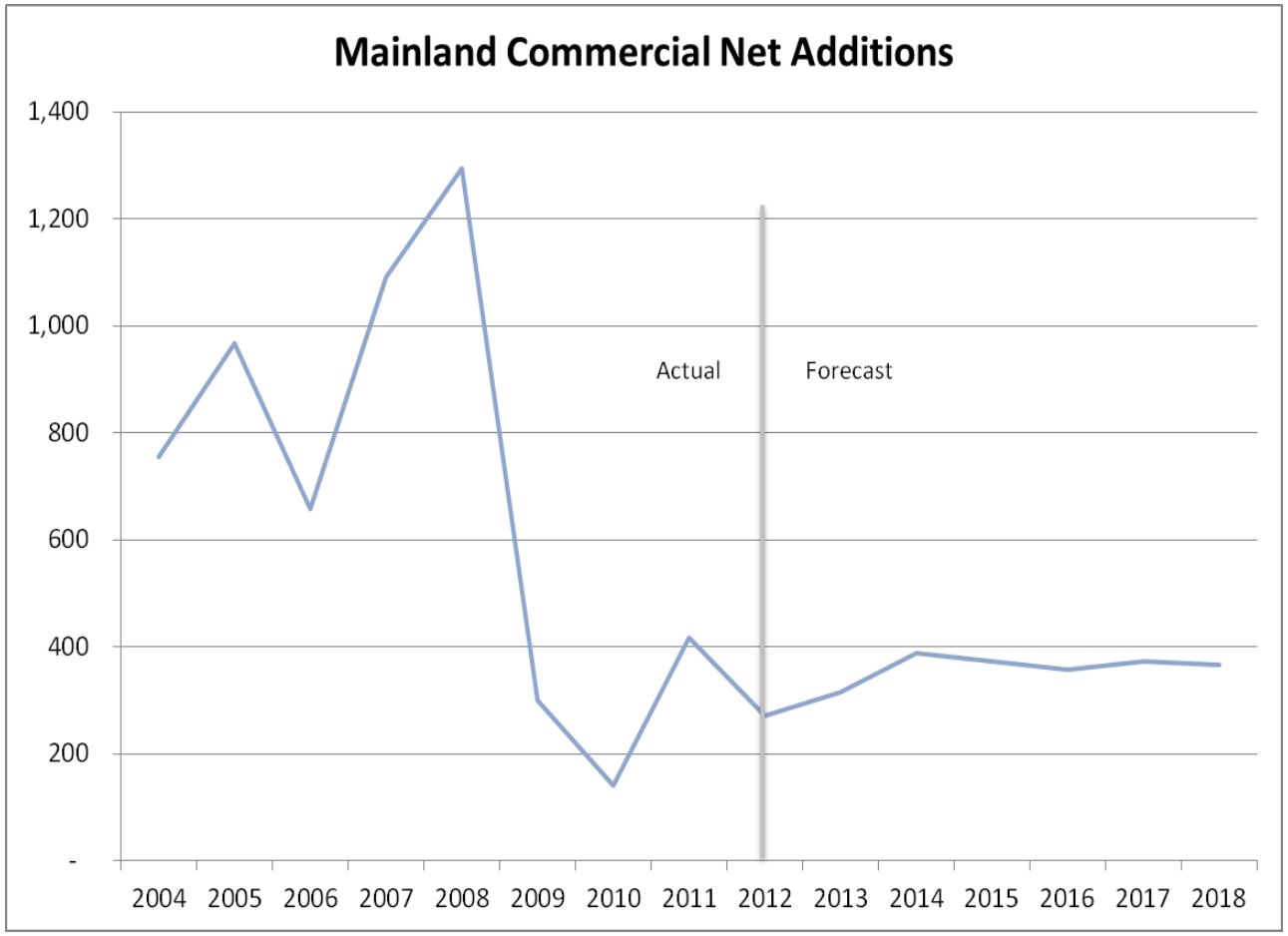

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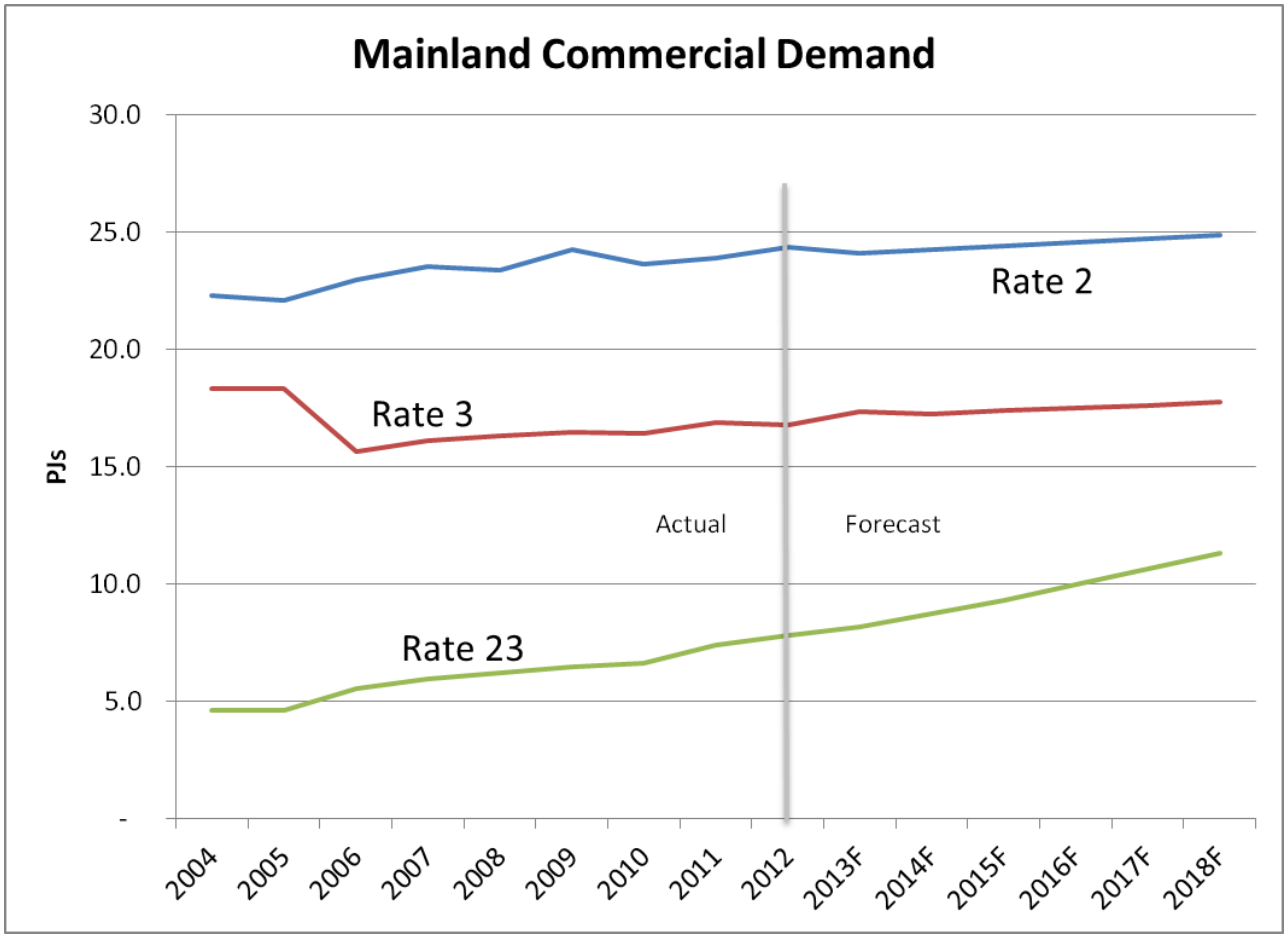

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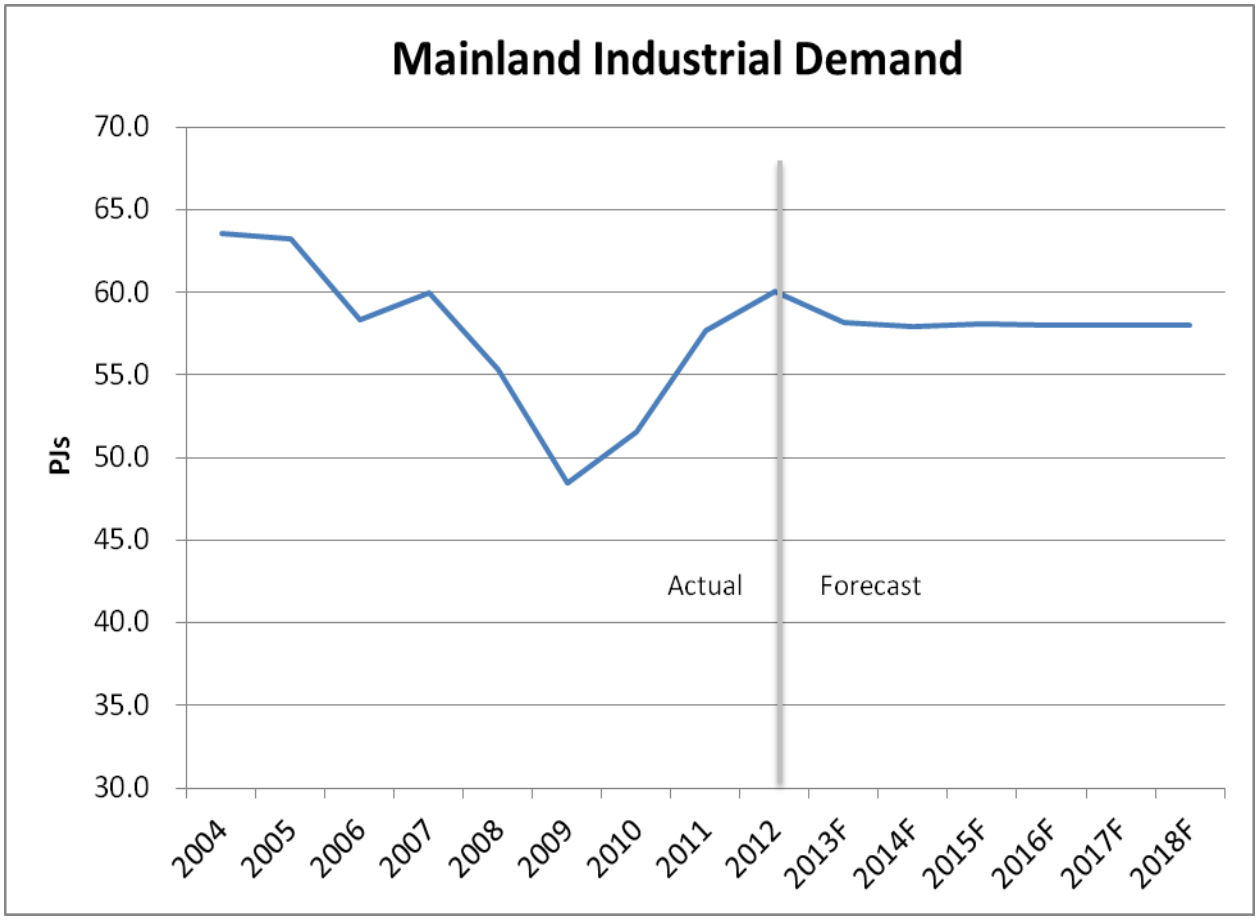
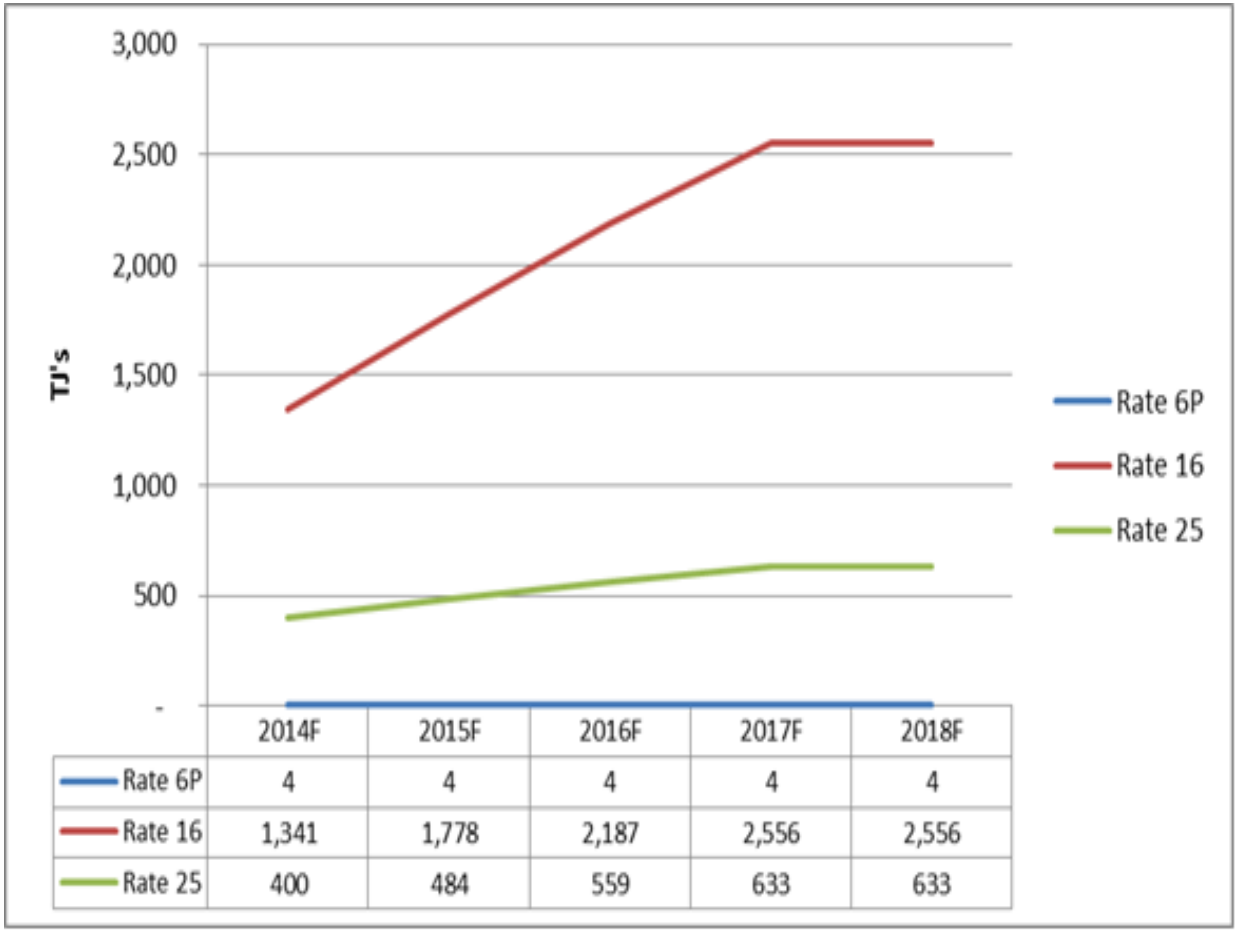
Mainland Industrial



- Demand from the industrial rate classes is forecast to stabilize
- Gas price a factor in uptick since 2009
- Based solely on Industrial Survey

NGT



	2014F	2015F	2016F	2017F	2018F
Rate 6P	4	4	4	4	4
Rate 16	1,341	1,778	2,187	2,556	2,556
Rate 25	400	484	559	633	633

- Rate 16 LNG volume depends on approval
- Rate 25 is CNG
- This will be updated annually

Messages

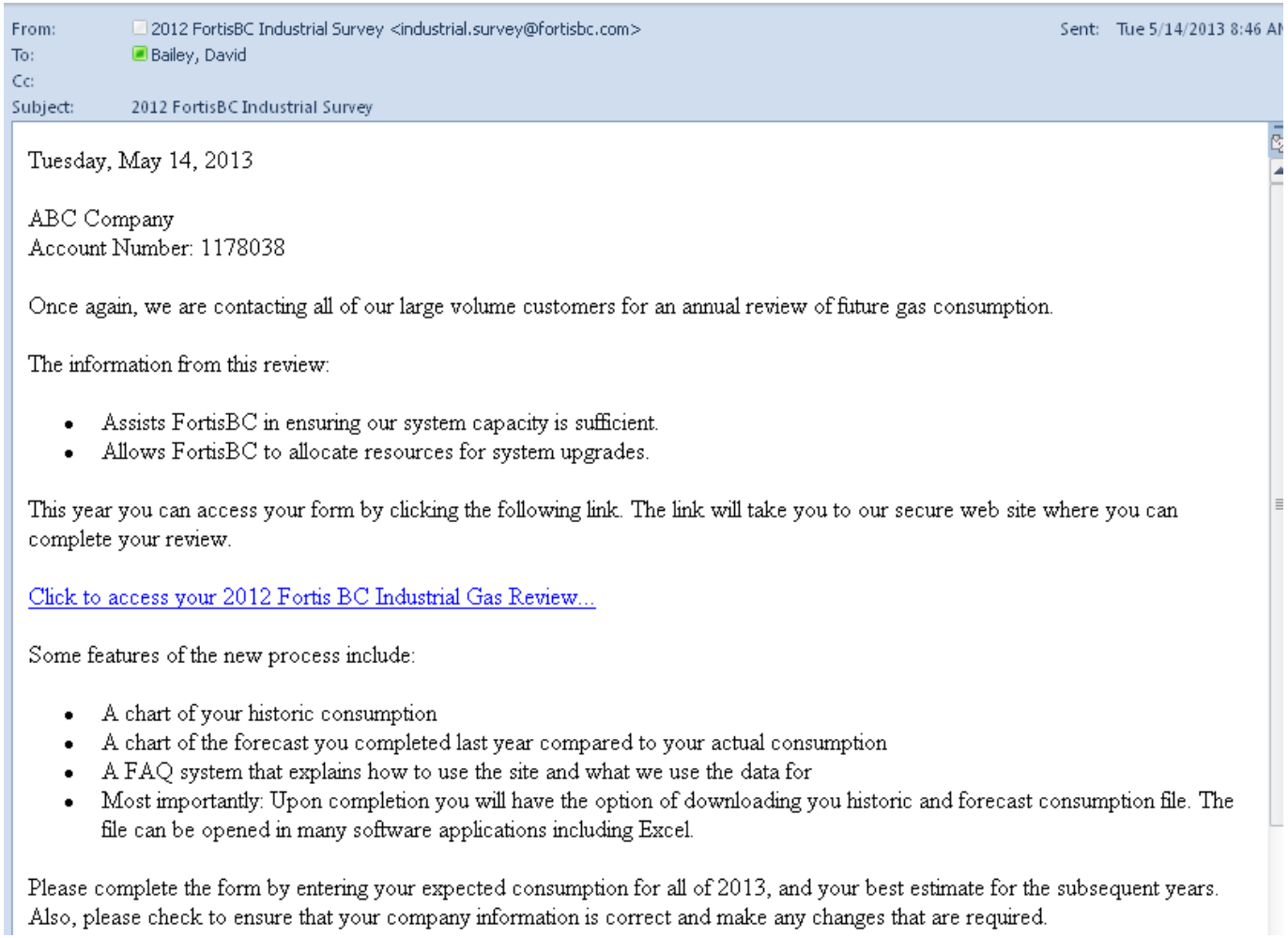
Demand is stable	• Residential is flat • Commercial is up • Industrial is flattening
Methodologies are unchanged	• Forecast software (FIS) in use for a decade • Methods remain unchanged
Improved Industrial Survey	• Online survey leads to better response rates
Annual Review	• We will be re-forecasting each year • We present 5 years but 2014 is most important

Discussion

Industrial Survey

Screen shots of the live demo…

Industrial Survey



From: 2012 FortisBC Industrial Survey <industrial.survey@fortisbc.com> Sent: Tue 5/14/2013 8:46 AM
To: Bailey, David
Cc:
Subject: 2012 FortisBC Industrial Survey

Tuesday, May 14, 2013

ABC Company
Account Number: 1178038

Once again, we are contacting all of our large volume customers for an annual review of future gas consumption.

The information from this review:

- Assists FortisBC in ensuring our system capacity is sufficient.
- Allows FortisBC to allocate resources for system upgrades.

This year you can access your form by clicking the following link. The link will take you to our secure web site where you can complete your review.

Click to access your 2012 Fortis BC Industrial Gas Review...

Some features of the new process include:

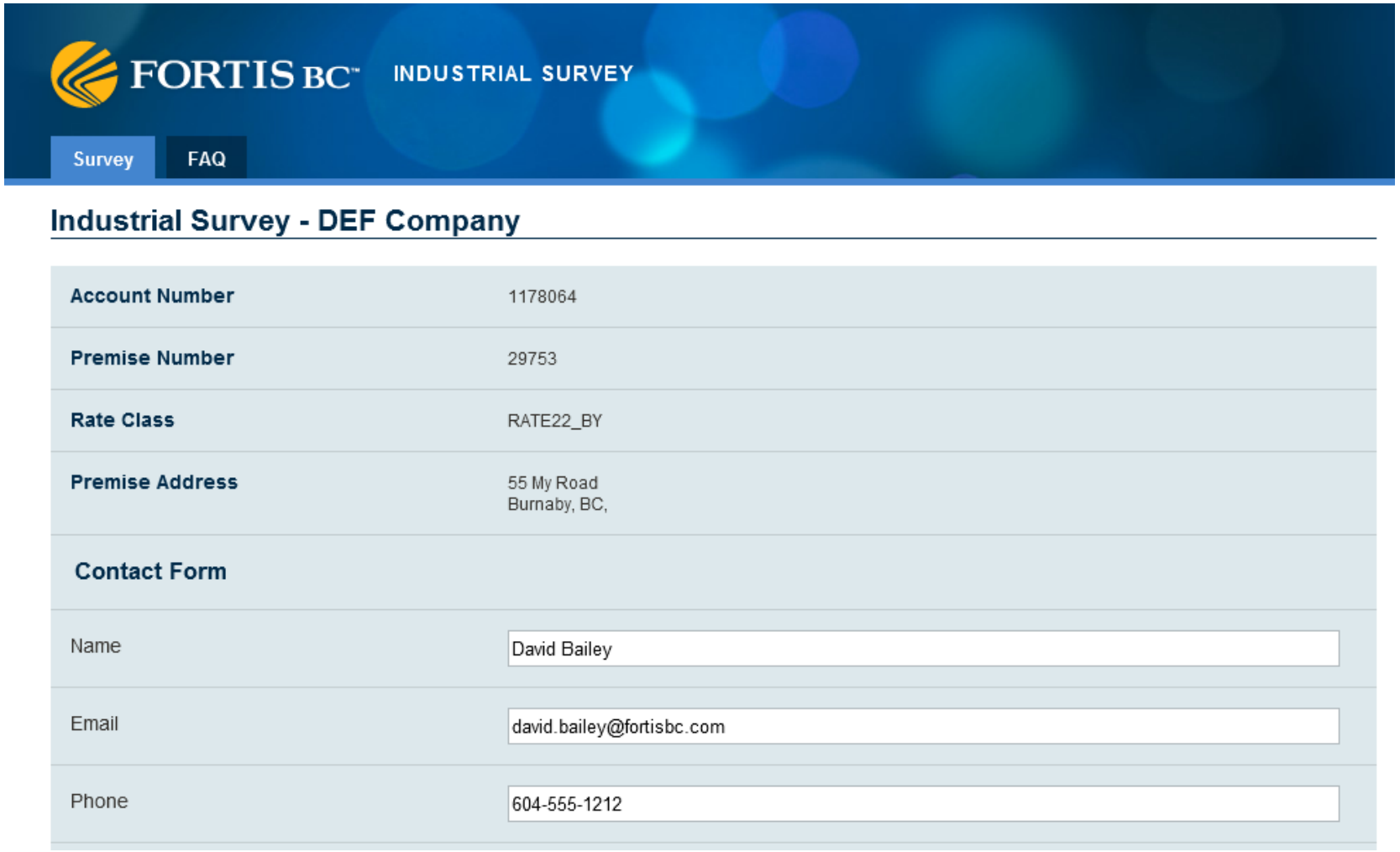
- A chart of your historic consumption
- A chart of the forecast you completed last year compared to your actual consumption
- A FAQ system that explains how to use the site and what we use the data for
- Most importantly: Upon completion you will have the option of downloading you historic and forecast consumption file. The file can be opened in many software applications including Excel.

Please complete the form by entering your expected consumption for all of 2013, and your best estimate for the subsequent years. Also, please check to ensure that your company information is correct and make any changes that are required.

- Sample email sent to survey participants
- Click the link to go to the web site

FORTIS BC™

Industrial Survey

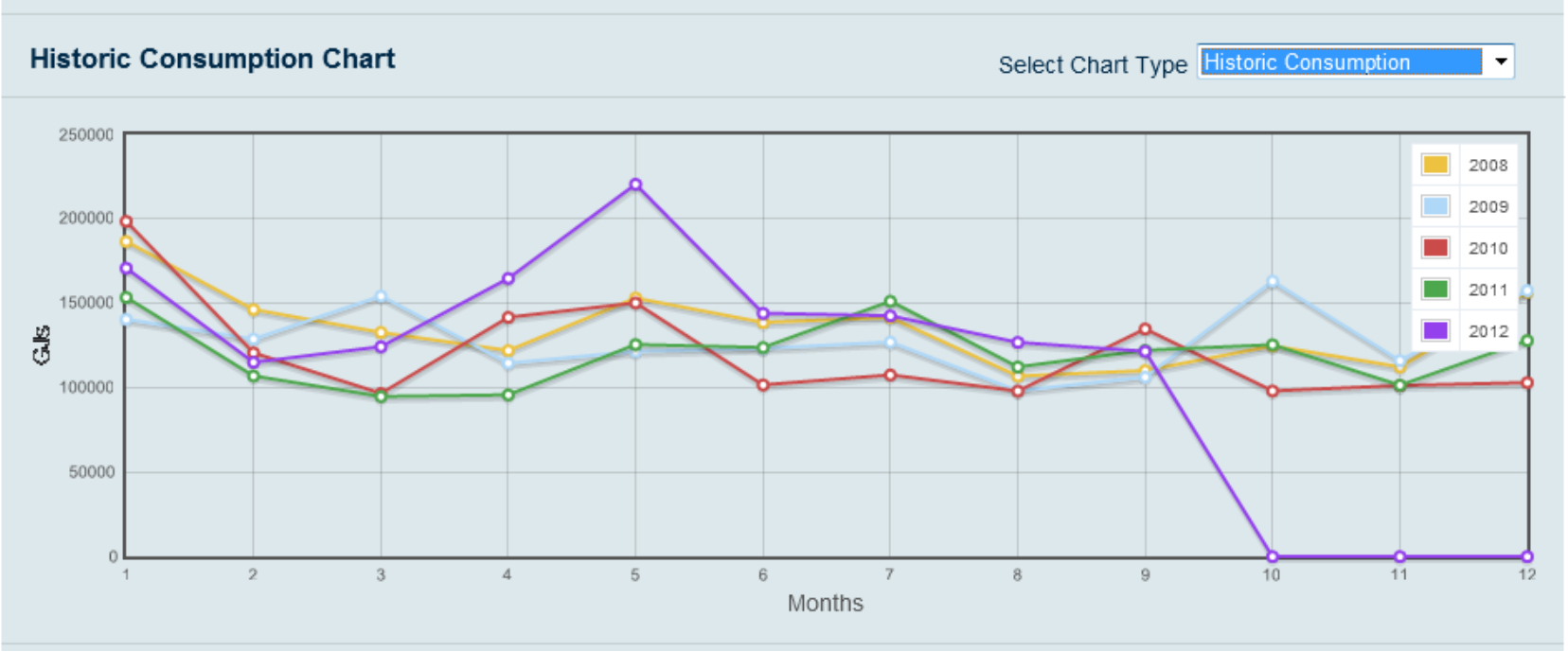


- The top part of the web form

Industrial Survey

- The new “forecast vs. actuals plot
- This shows customers how they did last time

Industrial Survey



- The actuals plot showing 5 years of consumption
- Shows usage over time
- Survey was done in Oct-Dec 2012 so the 2012 volumes are 0

FORTIS BC™

Industrial Survey

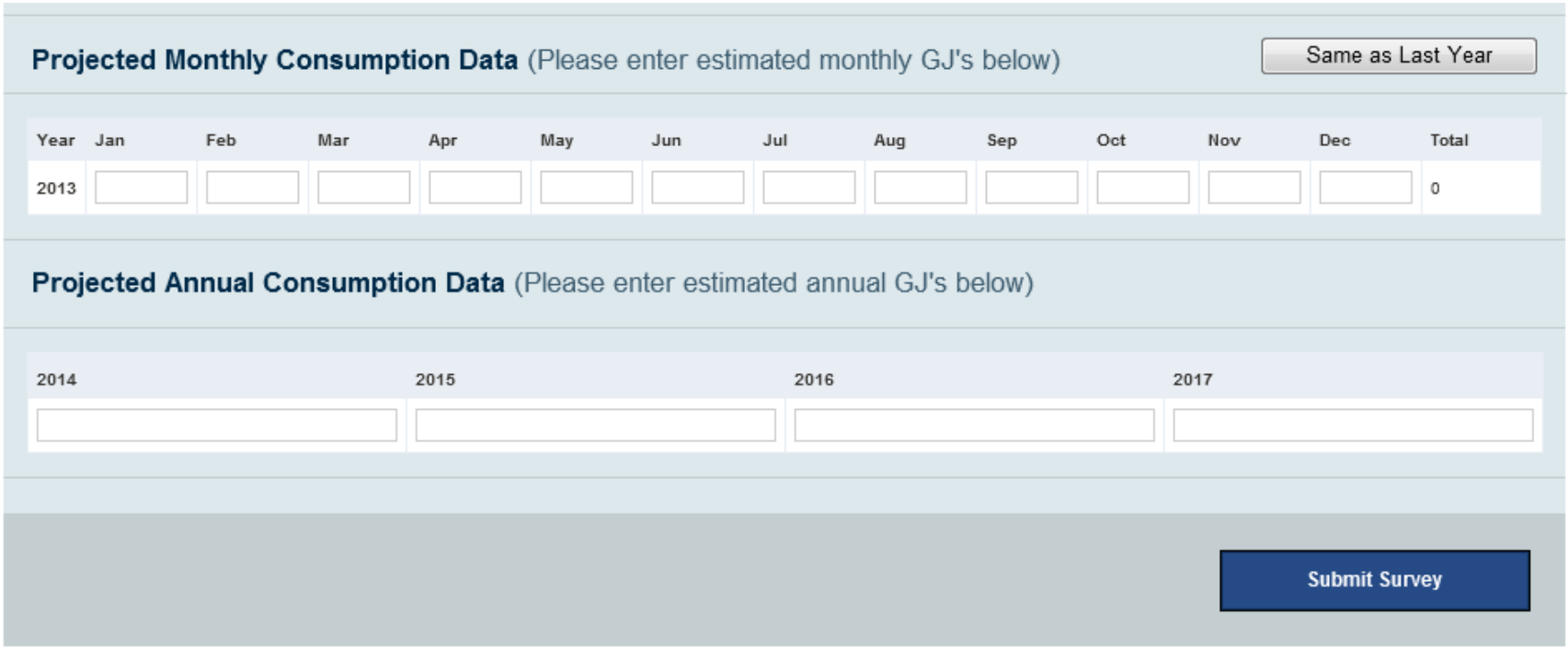
Historic Consumption Data

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2008	186,820	146,420	132,921	122,185	153,258	138,788	141,746	107,013	110,194	124,896	112,441	156,760	1,633,442
2009	140,693	128,937	154,380	114,670	121,644	123,462	127,136	98,370	106,397	163,259	116,188	157,688	1,552,824
2010	198,703	120,726	96,730	141,810	150,418	101,765	107,667	98,136	134,908	98,219	101,358	103,197	1,453,637
2011	153,651	107,061	94,845	95,828	125,647	123,870	151,403	112,365	122,213	125,548	101,551	128,070	1,442,052
2012	170,925	115,156	124,378	164,818	220,656	144,170	142,669	126,967	121,688	0	0	0	1,331,427

- The historic data table
- The user can download this in Excel format once the survey is complete

FORTIS BC™

Industrial Survey



- The monthly and annual form that our customers complete.
- Once they “Submit Survey” they will be able to download the Excel version for their own use.

FORTIS BC™