

GARY HERBERT Governor GREG BELL Lieutenant Governor

State of Utah Department of Commerce Division of Public Utilities

FRANCINE GIANI Executive Director THAD LEVAR
Deputy Director

CHRIS PARKER
Director, Division of Public Utilities

MEMORANDUM

To: Public Service Commission

From: Division of Public Utilities

Chris Parker, Director

Energy Section

Marlin H. Barrow, Technical Consultant

Artie Powell, Manager

Date: April 6, 2012

Subject: 4th Quarter of 2011 QGC Energy Efficiency Programs, Docket No. 10-057-15

ISSUE:

On January 12, 2011, the Utah Public Service Commission (PSC or Commission) issued an order in Docket No. 10-057-15 authorizing Questar Gas Company (QGC or the Company) to continue to offer to customers in the GS Rate Class, Energy Efficiency Programs (EE) for 2011 with a budget of \$32.228 million.

The purpose of this report is to provide 2011 year end actual results, as they compare to the 2011 EE budget, as approved by the Commission in Docket No. 10-057-15.¹

REPORT:

There are now seven (7) separate ThermWise EE programs designed to help customers improve the efficiency of their natural gas consumption in the 2011 QGC EE budget plan. In the 2011 plan, the ThermWise Multi-Family programs for Appliance, Builder and Weatherization were folded into the existing ThermWise Appliance, Weatherization and Builder Programs. The



¹ Commission Order, Docket No. 10-057-15, January 12, 2011.

separate prescriptive measures for each Multi-Family program are still tracked separately within each program.

The programs contain multiple prescriptive measures designed to help customers reduce their natural gas consumption. These programs are (1) the ThermWise Appliance Rebates Program, (2) the ThermWise Builder Rebates Program, (3) the ThermWise Business Rebates Program, (4) the ThermWise Custom Business Rebates Program, (5) the ThermWise Home Energy Audit Program, (6) the ThermWise Weatherization Program and (7) The Low Income Weatherization Assistance Program. The Low Income Weatherization Assistance Program adds an additional annual funding of \$500,000 to the \$250,000 Low Income Weatherization Assistance Program, bringing the total annual amount provided by QGC to \$750,000. The Department of Community and Economic Development administers the funds and provides the expertise to improve energy efficiency for low income residents by using the additional \$500,000 to upgrade customers to high efficiency furnaces. In addition to these seven programs, funds were budgeted for a continuation of the Market Transformation Initiative. This Initiative is designed to help educate natural gas customers on the benefits of reducing their consumption of natural gas on an ongoing basis.

2011 ThermWise EE PROGRAM SUMMARY

Table 1 on the following page compares the 2011 actual rebate expenditures with the 2011 annual budget. Table 1 shows that a total of \$22.3 million (col. E ln. 13), or 69.1% of the \$32.2 million total annual budget was spent. The table also shows that the expenditures resulted in 459,700 Dth of deemed savings during the year compared to an estimated budgeted deemed savings of 637,199 Dth. There were 83,283 participants during the year compared to an estimated 118,760 participants. The Total Resource Cost (TRC) ratio for all of the programs was 1.1. Col E, line 18 shows a net reduction of \$15.5 million in the FERC Account 184200 for the year resulting in a December 2011 ending balance of \$23.9 million.

	Table 1								
			QUESTAR	GAS COMPANY					
		E	NERGY EFFICIE	NCY SUMMARY	REPORT				
			31-	Dec-11					
			DOCKET NO	0. 10-057-15					
1	A	В	С	D	Е	F	G	H	I
2		2011	YTD	2011	YTD	YTD \$	YTD	2011	TRC
3		Estimated	Actual	Budget	Actual Costs	% of	Dth	Dth	B/C
4		Participants	Participants	(000)	(000)	Budget	Savings*	Savings*	Ratio
5	ThermWise Appliance	31,445	22,522	\$ 7,533.8	\$ 5,862.4	77.8%	149,790	230,145	1.4
6	ThermWise Builder	3,657	7,077	\$ 2,639.7	\$ 3,441.6	130.4%	44,574	31,006	0.6
7	ThermWise Business	1,039	881	\$ 1,299.2	\$ 1,296.5	99.8%	64,997	48,534	2.3
8	ThermWise Custom Business	20	17	\$ 452.6	\$ 416.4	92.0%	16,211	10,018	2.1
9	ThermWise Audit	3,773	1,581	\$ 760.6	\$ 519.2	68.3%	4,011	9,334	0.3
10	ThermWise Weatherization	78,826	51,205	\$17,296.8	\$ 8,843.4	51.1%	180,117	308,162	1.1
11	Market Transformation	NA	NA	\$ 1,752.1	\$ 1,409.1	80.4%	NA	NA	NA
12	Low Income Weatherization	NA	NA	\$ 500.0	\$ 500.0	100.0%	NA	NA	NA
13	Total	118,760	83,283	\$32,234.8	\$ 22,288.6	69.1%	459,700	637,199	1.1
14	DSM Interest				\$ 1,822.4				
15	DSM Amortization				\$ (39,595.5)				
16	DSM General Administration				\$ -				
17	R&D Funds Transfer				\$ -				
18	YTD Change Acct 182400				\$ (15,484.5)				
19	December 2010 Acct 182400	Bal			\$ 39,437.4				
20	Ending Balance Acct 182400				\$ 23,952.9				
21	*Savings reflects the net	Dth deemed sa	vings based o	n actual par	ticipants wit	h an 80	% net-to-g	ross rati	io ar

THERMWISE EE APPLIANCE PROGRAM

Table 2 on the next page summarizes the ThermWise EE Appliance Program. This program rebated 77.8% of the expected budget (col. F, ln. 19) however, \$1.9 million of the total \$5.9 million rebated is due to 2010 applications carrying over, mainly from 2010 furnace upgrades (\$1.4 million). When the 2010 carryover rebates are removed, only 53% of the 2011 EE Appliance Budget has been rebated during 2011. The 95% High-Efficiency Gas Furnace measure had the greatest participation, number wise, as well as dollars rebated, although the dollars were only 51% of the anticipated budget. The Solar Assisted Water Heating measure had the greatest increase in rebates paid, percentage wise (880%), over what was anticipated in the budget. The 2011 budget for the EE Appliance Program assumed a total weighted cost of \$24.75 per saved Dth. Due to the mix of measures chosen in 2011, the actual total weighted cost for those same measures was \$16.57 per saved Dth.

Table 2												
QUESTAR GAS COMPANY THERMWISE APPLIANCE PROGRAM												
	THERM	VISE APPLIANCE	PRO	GRAM								
		31-Dec-11										
DOCKET NO. 10-057-15												
1	2011	YTD		2011	YTD)	YTD \$	Budget	YTD			
2 Single and Multi-Family Appliance Rebates	Budgeted	Actual	Budg	ret	Act	ual Cost	% of	Dth	Dth			
3	Participants	Participants		(000)		(000)	Budget	Savings*	Savings*			
4 High-Efficiency Gas Furnance - Tier 1	550	52	\$	110.0	\$	10.4	9.5%	5,584	562			
5 High-Efficiency Gas Furnance - Tier 2	3,500	418	\$	1,050.0	\$	125.4	11.9%	42,080	5,472			
6 High-Efficiency Gas Furnance - Tier 3	8,500	4,337	\$	2,975.0	\$	1,518.0	51.0%	138,280	70,266			
7 High Efficiency Gas Water Heater - Tier 1	4,030	2,370	\$	201.5	\$	118.5	58.8%	5,513	3,242			
8 High Efficiency Gas Water Heater - Tier 2	505	259	\$	50.5	\$	25.9	51.3%	1,600	821			
9 Tank Less Gas Water Heater -tier 1	620	571	\$	186.0	\$	171.3	92.1%	5,456	4,019			
10 Tank Less Gas Water Heater -tier 2	905	361	\$	316.8	\$	126.4	39.9%	8,688	2,772			
High Efficiency Condensing Gas Storage												
11 Water Heater	25	33	\$	8.8	\$	11.6	132.6%	184	243			
12 High-Efficiency Hybrid Gas Water Heater	25	69	\$	8.8	\$	24.2	276.6%	204	563			
13 Residential Boiler	230	54	\$	138.0	\$	32.4	23.5%	4,600	703			
14 Solar Assisted Water Heating	25	220	\$	18.8	\$	165.0	880.0%	350	3,080			
15 ENERGY STAR Clothes Washer	12,500	2,816	\$	625.0	\$	140.8	22.5%	17,400	3,920			
16 Direct-Vent Gas Fireplace	30	58	\$	6.0	\$	11.6	193.3%	206	491			
17 2010 Carryover	-	10,904		_		1,899.3	NA	0	53,636			
18 Administrative & Overheads	NA	NA	\$	1,838.8	_	1,481.6	80.6%		NA			
19 TOTAL	31,445	22,522	\$	7,533.8	\$	5,862.4	77.8%	230,145	149,790			
20			_	·	I —							

The Appliance Program has a TRC test ratio of 1.4 as shown in Table 1 (col. I, ln. 5).

THERMWISE EE BUILDER PROGAM

The ThermWise EE Builder Program is designed to offer builders (both contractors and self-build) who use energy efficient construction techniques specific rebates. There are three different construction tiers (1) that meet or exceed Energy Star v 2.0 with a 90% or greater AFUE furnace and a water heater with an EF of .62 or greater, (2) that meet or exceed Energy Star v 2.5 with a 92% or greater AFUE furnace and a water heater with an EF of .62 or greater, or (3) that meet or exceed Energy Star v 3.0 with a 95% or greater AFUE furnace and a water heater with an EF of .62 or greater that also exceeds the 2006 IECC standards by at least 30%. There are also separate prescriptive rebates available to builders for energy efficient appliance installations if one of the above construction conscripts is not followed.

As shown in Table 3 for 2011, the Builder Program rebated 130.4% of its budget (col. F, ln. 17). However, \$1.7 million (col. E, ln. 15) of the total \$3.4 million rebated resulted from 2010 carryover for homes that began under the 2010 standards (\$1.2 million) and 2010 furnace installations (\$0.5 million) which, if excluded from the total, leaves only 67.4% of the 2011 Builder Program prescriptive measures rebated during the year.

Table 3												
	QUE	STAR GAS COMPA	NY									
	THERMV	ISE BUILDER PR	OGR	AM								
		31-Dec-11										
	DOCKET NO. 10-057-15											
A	В	С		D		E	F		G			
	2011	YTD		2011		YTD	YTD \$	Budget	YTD			
	Estimated	Actual		Budget	Act	ual Costs	% of	Dth	Dth			
	Participants	Participants		(000)		(000)	Budget	Savings*	Savings*			
THERMWISE BUILDER PROGRAM												
n#												
1 ThermWise Builder Option 1 (Energy Star 2010 Compliant)	1,950	1,245	\$	1,030.0	\$	312.3	30.3%	18,494	5,864			
2 ThermWise Builder Option 2 (Energy Star 2011 Compliant)	250	131	\$	155.0	\$	90.9	58.6%	3,170	2,102			
3 ThermWise Builder Option 3 (High Performance home)	10	33	\$	8.5	\$	28.1	330.6%	224	739			
4 High Efficiency Gas Water Heater - Tier 1	50	562	\$	2.5	\$	28.1	1124.0%	69	769			
5 High Efficiency Gas Water Heater - Tier 2	10	27	\$	1.0	\$	2.7	270.0%	32	86			
6 High Efficiency Condensing Gas Storage Water Heater	20	1	\$		\$	0.4	5.7%	147	7			
7 High-Efficiency Hybrid Gas Water Heater	20	17	\$	7.0	\$	6.0	85.7%	163	139			
8 Tank Less Gas Water Heater -tier 1	100	70	\$	30.0	\$	21.0	70.0%	880	616			
9 Tank Less Gas Water Heater -tier 2	10	5	\$	3.5	\$	1.8	51.4%	96	48			
10 High-Efficiency Gas Furnance - Tier 1 (90% AFUE Rated)	650	90	\$	130.0	\$	18.0	13.8%	3,828	587			
11 High-Efficiency Gas Furnance - Tier 2 (92-94.9% AFUE Ra		551	\$		\$	165.3	106.0%	3,261	3,873			
12 High-Efficiency Gas Furnance - Tier 3 (95% plus AFUE Ra	55	329	\$	19.3	\$	115.2	598.4%	485	2,828			
13 Gas Boiler	10	5	\$		\$	3.0	50.0%	129	64			
14 Solar Assisted Water Heater	2	31	\$	1.5	\$	23.3	1553.3%	28	434			
15 2010 Carryover	=	3,980	\$		\$	1,663.3	NA	NA	26,418			
16 Administrative & Overheads	NA	NA		1,082.4	\$	962.2	88.9%	NA	NA			
17 TOTAL	3,657	7,077	\$	2,639.7	\$	3,441.6	130.4%	31,006	44,574			
18												

The 2011 budget for the EE Builder Program assumed a total weighted cost of \$50.22 per saved Dth. The actual total weighted cost for the 2011 budgeted measures is \$18.31 per saved Dth due in large part to fewer ThermWise Builder Option 1 homes completed than planned. The TRC ratio for the Builder Program is 0.6. This less than optimal result is due to the weighting of the 2010 carry over home completions (TRC ratio of 0.4) which may have been rebated without the requirement to install energy efficient gas furnaces. Under the 2011 Builder Option guidelines, the ThermWise Builder Option 1 rebates that have been completed so far show a TRC ratio of 2.2.

THERMWISE EE BUSINESS PROGAM

In the Thermwise EE Business program, there are 40 prescriptive measures available to commercial entities to improve their energy efficiency. Table 4 provides the detail on 11 of those 40 measures that had \$5,000 or more total 2011 rebate incentive costs. The total rebate expense of these 11 measures is \$1261.1 million, which accounts for 97% of the \$1296.5 million shown in column E, line 16.

Table 4									
	QUESTAR GAS CO	MPANY							
THEF	MWISE BUSINES	PROGRAM							
	31-Dec-11								
I	OCKET NO. 10-	057-15							
A	В	C		D		E	F	G	H
1	2011	YTD		2011		YTD	YTD \$	Budget	YTD
2	Estimated	Actual	Bud	dget	Act	ual Costs	% of	Dth	Dth
2	Participants	Participa		(000)		(000)	Budget	Savings*	Savings
4 COMMERCIAL REBATE PROGRAM									
5 High Efficiency Gas Water Heater - Commercial	35	35	\$	5.3	\$	17.6	335.2%	368	1,23
6 High Efficiency Gas Water Heater - Commercial Tankless Tier1	22	21	\$	8.8	\$	8.0	90.9%	620	56
7 92% Plus AFUE Condensing Gas Furnace - Commercial	61	43	\$	18.3	\$	12.9	70.5%	791	55
8 95% Plus AFUE Condensing Gas Furnace - Commercial	112	149	\$	44.8	\$	59.6	133.0%	1,622	2,15
9 High Efficiency Boiler Hot Water Tier 2	50	73	\$	243.8	\$	510.9	209.6%	20,358	42,67
10 High Efficiency Gas Unit Heater -90% plus Efficiency	80	17	\$	105.6	\$	23.1	21.9%	2,389	52
11 Gas Infrared Heating System	200	211	\$	60.0	\$	146.3	243.8%	4,620	11,26
12 High Efficiency Convection Oven	12	24	\$	12.0	\$	24.0	200.0%	310	62
13 Windows - Pre Fab New Construction	10	12	\$	16.8	\$	6.1	36.3%	998	36
14 Building Shell Attic Insulation Retrofit	35	49	\$	63.0	\$	103.9	164.9%	1,302	2,14
15 Administrative & Overheads	NA		\$	523.6	\$	348.7	66.6%		NA
16 TOTAL	1,039	881	\$	1,299.2	\$	1,296.5	99.8%	48,534	64,99
17									

For the year, the total program spent 99.8% of the annual budget. The 2011 budget cost per deemed Dth saved was \$15.98 compared to an actual cost of \$14.58.

As shown in Table 1, the ThermWise EE Business Program has a TRC benefit ratio of 2.3, which is the highest TRC benefit ratio of all of the available programs.

THERMWISE EE CUSTOM BUSINESS PROGAM

The ThermWise EE Custom Business Program is designed for customer specific applications and requires longer development time before results are achieved.

Table 5 shows the results for the ThermWise EE Custom Business program. The table shows that 92% of the total budget has been spent but 119.2% of the budgeted rebate dollars has been funded to participating customers. These expenditures are the results of programs which began development in 2010 due to the longer development times required for implementation. Possible revisions to this program are being developed for implementation in 2012 to reduce the time required for program implementation.

Table 5							
QUESTAR GAS COMPANY							
THERMWISE CUSTOM PROGRAM							
31-Dec-11							
DOCKET NO. 10-057-15							
1	2011	YTD	2011	YTD	YTD \$	Budget	YTD
2	Estimated	Actual	Budget	Actual Costs	% of	Dth	Dth
3	Participan	Participants	(000)	(000)	Budget	Savings	Savings*
4 BUSINESS CUSTOM REBATES PROGRAM							
5 Business Custom Rebates Total	20	17	\$ 100.2	\$ 119.4	119.2%	10,018	16,211
6 Administrative & Overheads		NA	\$ 352.4	\$ 297.0	84.3%	NA	NA
7	20	17	\$ 452.6	\$ 416.4	92.0%	10,018	16,211
8 1) NB - Not Budgeted, no participa	tion anticip	ated					

The program's TRC benefit cost ratio is 2.1, which is the second highest of all of the ThermWise EE Programs.

THERMWISE EE AUDIT PROGAM

The Thermwise EE Audit Program is designed to give customers an opportunity to have their current energy efficiency efforts evaluated and suggestions offered on ways to improve those efforts. The home energy audits can either be an on-site audit, conducted by a qualified QGC technician or a mail in audit in which the participants answers questions and receive advice from QGC.

Table 6							
QUESTAR GAS COMPANY							
THERMWISE AUDIT PROGRAM							
31-Dec-11							
DOCKET NO. 10-057-15							
A	В	С	D	E	F	G	H
1	2011	YTD	2011	YTD	YTD \$	Budget	YTD
2	Estimated	Actual	Budget	Actual Costs	% of	Dth	Dth
3	Participants	articipant	(000)	(000)	Budget	Savings*	Savings*
4 RESIDENTIAL HOME ENERGY AUDIT PROGRAM							
5 Audit Efficiency Measures (1)	3773	1,581	\$ 24.33	8.5	34.9%	9,334	4,011
6 Administrative & Overheads	NA	NA	\$ 736.3	510.7	69.4%		NA
7	3,773	1581	\$ 760.6	\$ 519.2	68.3%	9,334	4,011
8 (1) Participant numbers reflect total	number of eff	iciency un	its given ou	t, not number	of in home	audits p	erformed.
9 *Savings reflects the net Dth deemed s	avings based o	n actual p	articipants v	with an 80% net	t-to-gross	ratio ap	plied.

Table 6 shows the actual audit rebates given out amount to 34.9% of the budgeted amount. The value of this program provides a gateway for customers to see potential savings available to them by implementing additional energy efficiency measures through participation in other programs, namely the Thermwise EE Weatherization and Appliance programs.

THERMWISE EE WEATHERIZATION PROGAM

Table 7 summarizes the results for the Thermwise EE Weatherization program. On a total program basis, the EE Weatherization program reached only 51% of the budgeted expenditures. The Tier 1 Attic Insulation measure is the primary driver for this program lagging behind in expected 2011 rebates as it achieved only 40.7% of its budgeted amount.

T	Cable 7												
			QUESTAR	GAS COMPAN	Y								
THERMWISE WEATHERIZATION PROGRAM 31-Dec-11													
	31-Dec-11 DOCKET NO. 10-057-15												
	A	В	С	D	E	F		G					
1 R	RESIDENTIAL WEATHERIZATION	2011	YTD	2011	YTD	YTD \$	Budget	YTD					
2		Estimated	Actual	Budget	Actual Costs	% of	Dth	Dth					
3	1	Participants	articipants	(000)	(000)	Budget	Savings	Savings*					
4													
5 W	Windows - Residential	16,937	13,330	\$ 818.9	\$ 807.4	98.6%	28,410	28,012					
6 W	Wall Insulation	2,225	1,420	\$ 501.3	\$ 370.2	73.8%	7,085	5,232					
7 A	Attic Insulation Tier 1	39,465	16,845	\$10,512.9	\$ 4,275.3	40.7%	222,874	90,636					
8 A	Attic Insulation Tier 2	16,252	13,023	\$ 1,523.0	\$ 1,120.0	73.5%	22,627	16,640					
9 F	loor Insulation	1,665	661	\$ 281.7	\$ 114.3	40.6%	7,662	3,108					
LO P	rogrammable Thermostat -	286	82	\$ 8.6	\$ 2.5	29.1%	609	174					
L1 D	Ouct Sealing & Insulation	1,996	5,227	\$ 778.2	\$ 932.8	119.9%	18,894	33,615					
2	2010 Carryover	0	617	\$ -	\$ 130.3	NA	NA	2,700					
L 3 🗷	Administrative & Overheads	NA	NA	\$ 2,872.3	\$ 1,090.7	38.0%	NA	NA					
L 4		78,826	51,205	\$17,296.8	\$ 8,843.4	51.1%	308,162	180,117					
L 5													

The 2011 budget for the EE Weatherization Program assumed a total weighted cost of \$46.81 per saved Dth. The actual total weighted cost for the same budgeted measures is \$43.04 per saved Dth. The program's TRC ratio was 1.1.

THERMWISE MARKET TRANSFORMATION PROGAM

Table 1, on page 3, shows the ThermWise EE Market Transformation Program achieved 80% of the expected 2011 levels. Due to the late start of the Jazz basketball season, there were some dollars budgeted for advertising that did not occur.

THERMWISE LOW INCOME PROGAM

The next ThermWise Low Income Weatherization Program funded its target amount of \$500,000. This \$500,000 is used to provide low-income qualified residences with energy efficient furnaces.

DSM Amortization Account Balance

As shown in Table 1, FERC account 182.400 is the account where the company accumulates the costs expended in the multiple EE programs and at least semi-annually, requests permission from the Commission to amortize those accumulated balances. In table 1 on page 3 the balance at of the end of December 2011 was \$23.9 million (Col E, Line 20). The current amortization rate for the GS class is \$0.41 / Dth (rounded) which was set in Docket No. 11-057-15, effective February 1, 2012, to amortize an estimated January 2012 balance of \$25.4 million by the end of May 2014 as well as projected current annual expenditures of \$28,000,000 in continuing EE programs. At the end of January 2012, the FERC account 182.400 balance was \$16.6 million. The amortization rate will continue to be adjusted in order to target a zero outstanding balance no later than May 2014 as well as recover the current year's expected expenditures.

CONCLUSION & RECOMMENDATIONS:

The Division is pleased with the success of the Energy Efficiency Programs initiated by Questar Gas Company as they benefit all rate payers by reducing usage levels. As shown on page 3, in Column I, Line 13 of Table 1, the TRC for all Energy Efficiency programs is 1.1.

When GS rate class customers pay their monthly gas bills, QGC is reimbursed by all those customers for the total costs of the Energy Efficiency programs. Because of this fact, the Division recommends all GS customers try to take advantage of the EE programs in order to avail themselves of the natural gas energy saving opportunities provided by the programs.

Cc: Barrie McKay, Questar Gas Company
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