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SOUTHWEST GAS CORPORATION

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AZ CORP COMMISSION
DOCKET CONTROL

September 30, 2015

Docket Control
Arizona Corporation Commission
1200 West Washington Street
Phoenix, AZ 85007-2996

Re: **Docket No. G-00000G-15-0090**

Pursuant to the Gas Utility Energy Efficiency Standards of the Arizona Administrative Code, Section R14-2-2509(B), which requires affected utilities to file a status report with the Arizona Corporation Commission by October 1 of each year, Southwest Gas Corporation hereby submits an original and thirteen copies of its Arizona Energy Efficiency and Renewable Energy Resource Technology Portfolio Implementation Plan Annual Status Report.

If you have any questions or require additional information, please contact me at 602-395-4058.

Respectfully submitted,

Matthew D. Derr
Regulatory Manager/Arizona

Cc: Julie McNeely-Kirwan, ACC Utilities Division
Brian Bozzo, ACC Compliance Manager

SOUTHWEST GAS CORPORATION

ARIZONA ENERGY EFFICIENCY AND RENEWABLE ENERGY RESOURCE TECHNOLOGY PORTFOLIO IMPLEMENTATION PLAN

Annual Status Report:

January 1, 2015 – June 30, 2015

October 1, 2015

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ARIZONA ENERGY EFFICIENCY AND RENEWABLE ENERGY RESOURCE TECHNOLOGY PORTFOLIO IMPLEMENTATION PLAN

Overview

Pursuant to Section R14-2-2509(B) of the Gas Utility Energy Efficiency Standards (Gas EE Standards), Southwest Gas Corporation (Southwest Gas or Company) submits its annual status report (Report) for the Company's Energy Efficiency (EE) and Renewable Energy Resource Technology (RET) portfolio (EE & RET Plan). Because Southwest Gas' EE & RET Plans are implemented from June through May, rather than January through December, this Report contains data for the first month of Program Year Four (PY4), which covers June 1, 2015 through June 30, 2015. In addition, Southwest Gas included in this Report a full year of data for Program Year Three (PY3), covering the period from June 1, 2014 through May 31, 2015.

The *Smarter Greener Better®* (SGB) Low-Income Energy Conservation (LIEC) program year operates on a fiscal year from July through June; therefore, the Report includes expenditures and participation rates for the period covering July 1, 2014 through June 30, 2015 for PY3.

Pursuant to Decision No. 73229 (Docket No. G-01551A-11-0344), the Company included an evaluation of cost-effectiveness for each program and measure in this Report, listing any measures that have ceased to be cost-effective and indicating why they are no longer cost-effective.

Additionally, pursuant to Decision No. 74300 (Docket No. G-01551A-13-0170), Southwest Gas included tables that list the following information:

- All Arizona Corporation Commission (Commission) approved programs and measures, and budgeted expenditures by program
- Actual annual expenditures by program
- Plan cost-effectiveness ratio per measure (last calculated by the Commission's Utilities Division Staff (Staff))
- Actual cost-effectiveness ratio per measure (using the Staff-approved method with all criteria updated to reflect the most recent data available)
- Program annual therm savings and lifetime therm savings (plan and actual data)
- Program cost-effectiveness test benefits, costs, and net benefits (plan and actual data)

Program Summary – PY3 and PY4

Southwest Gas submitted its EE & RET Plan for PY3 and PY4 on May 31, 2013, requesting approval of its existing seven programs with a total budget of $7.5 million. On January 29, 2014, the Commission issued Decision No. 74300 approving the five programs listed below with a total budget of $4.7 million.

Residential Energy Management Programs

1. *Smarter Greener Better* Homes

Non-Residential Energy Management Programs

2. *Smarter Greener Better* Custom Commercial Rebates
3. *Smarter Greener Better* Distributed Generation

Low-Income Program

4. *Smarter Greener Better* Low-Income Energy Conservation

Renewable Energy Resource Technology Program

5. *Smarter Greener Better* Solar Thermal Rebates

The above five programs and associated program budgets constitute Southwest Gas' PY3 and PY4 EE & RET program portfolio, which began June 1, 2014 and will extend through May 31, 2016.

Below is a brief overview of each program.

SGB Homes: Tiered rebates were offered to homebuilders for ENERGY STAR certified homes. Homes that received ENERGY STAR certification were eligible for a Tier 1 rebate and homes that received ENERGY STAR certification and achieved a Home Energy Rating System (HERS) score of 65 or below were eligible for a Tier 2 rebate. The program was available to all builders of new single-family subdivision and custom homes and multi-family homes featuring natural gas water and/or space heating.

SGB Custom Commercial Rebates: Rebates were offered to non-residential customers based on achieved annual energy savings. The program does not specify eligible measures in order to provide participants maximum flexibility in identifying potential projects. Participants may propose any measure that produces a verifiable natural gas usage reduction, is installed in either existing or new construction applications and exceeds code, has a minimum useful life of seven years, and exceeds minimum cost-effectiveness requirements. Qualifying measures include those that target cost-effective natural gas savings, such as retrofits of existing systems, improvements to existing systems, and first time installations where the system's efficiency exceeds applicable codes or standard industry practices.

SGB Distributed Generation: The program provided rebates to non-residential customers to achieve significant fuel savings by promoting high-efficiency electric generation with waste heat recovery, providing financial benefits during peak electrical demand periods, and demonstrating the use of new

technologies that are being brought to market. The rebates are based upon the size and efficiency of the system being installed.

SGB LIEC: The LIEC program was comprised of two components: one provides energy-efficient home improvements such as increased insulation, duct repairs, weatherstripping, caulking, etc., (otherwise referred to as weatherization); and the other provides emergency assistance to help pay household natural gas bills (otherwise referred to as bill assistance). The program was available to households with annual incomes less than 150 percent of the federal poverty income guidelines and was administered by Southwest Gas in conjunction with the Arizona Department of Administration (ADOA) Office of Grants and Federal Resources and Arizona Community Action Association.

SGB Solar Thermal Rebates: Rebates were offered to residential and non-residential customers on qualified solar thermal systems used for water heating or pool heating with a natural gas back-up, upon proof-of-purchase and installation. The program objective was to increase public awareness of the benefits of solar thermal systems and to reduce customer natural gas usage by providing economically beneficial rebates to install the systems. Long-term customer energy savings are realized throughout the life of the solar thermal systems.

Southwest Gas continually monitors and evaluates each program and measure included in its EE & RET Plan, and implements program and process improvements as needed. The Company often utilizes in-house staff for its measurement and evaluation activities which may result in no direct costs charged to the measurement, verification and evaluation (MV&E) budget category under each program. For programs that are administered by a third party, MV&E costs are accumulated under the Delivery budget category.

Aside from the cancellation of cost-effective residential and commercial prescriptive rebates in Arizona prior to the launch of PY3, Southwest Gas has not encountered any issues which would result in a request to modify or terminate any programs or measures that are currently approved by the Commission for PY4.

Status Report

Pursuant to Decision No. 73229, Southwest Gas performed its biannual review of the performance of available measures and has included the actual cost-effectiveness ratios for each program and measure that experienced participation during the reporting period. In addition, pursuant to Decision No. 74300, the actual cost-effectiveness ratios for PY3 were calculated using the Staff-approved method with all criteria updated to reflect the most recent data available.

PY3 (June 1, 2014 – May 31, 2015) Overview

Southwest Gas experienced a decrease in overall plan expenditures and participation for PY3 compared to PY1 and PY2. This is predominantly attributable to the cancellation of the Residential and Commercial Rebate programs and inadequate approved funding to support the influx of interest and participation received in PY2.

On November 26, 2013, Southwest Gas filed an Emergency Application for Approval of Interim Funding for its EE & RET Plan. However, in Decision No. 74305, the Commission instead required Southwest Gas to maintain its $4.7 million budget. Consequently, the Company had to shut-down most of its programs prior to the end of the program year to ensure PY2 expenditures did not exceed the $4.7 million approved budget and was not able to offer the Residential and Commercial Rebate programs in PY3, which had in excess of 1,500 PY2 participants.

When programs initially launch or re-launch, there is a lag time between customers, contractors and trade allies learning about the programs and increased participation. Southwest Gas re-launched its EE & RET Plan for PY3 without the Residential and Commercial Rebate programs, causing customer and trade ally confusion and dissatisfaction. Many customers purchased equipment with the intent of participating in the Residential or Commercial Rebate programs only to learn the programs were cancelled. This inconsistency in program offerings contributes to uncertainty in the marketplace and subsequent reductions in future program participation.

The Homes program experienced an increase in PY3 participation compared to PY2. Because PY3 Homes program rebates were tiered, there was a slight decrease in the dollars of rebates paid; however, there was a significant increase in therms saved for the program as a whole. The Homes program has been Southwest Gas' most popular program and the Company looks forward to continued program success.

The Custom Commercial Rebates and Distributed Generation programs are both directed primarily toward large projects, which require significant financial investment and lead times from planning to completion. Although participation in the SGB Custom Commercial Rebates and SGB Distributed Generation programs is reflected as zero in the ensuing tables, there are currently three custom projects, and one distributed generation project, pending completion. The pending projects, which were initiated prior to or during PY3, will remain pending until all construction and post-installation data evaluations are completed. Southwest Gas anticipates including energy savings and additional expenditures for the pending projects in the PY4 status. The administrative, outreach and delivery expenditures incurred during PY3 and PY4 are reflected in the budget and societal costs columns in Tables 1, 4, 10 and 13, and will be included in the final TRC evaluations conducted upon project completion.

Southwest Gas' PY3 program performance is set forth in Tables 1 through 9.

Table 1 below shows the total PY3 approved annual budget of $4.7 million and the actual PY3 expenditures between June 1, 2014 and May 31, 2015 identified by program and budget category.

Table 1 – PY3: Budget and Expenditures

Program	Annual Budget	Expenditures (June 1, 2014 – May 31, 2015)[1]					
		Rebates	Administration	Outreach	Delivery	MV&E	Program Total Cost
Residential							
SGB Residential Rebates[2]	$0	($93)	$0	$0	$0	$0	($93)
SGB Homes	$2,880,000	$2,160,750	$3,610	$3,394	$16,150	$0	$2,183,904
Total Residential	*$2,880,000*	*$2,160,657*	*$3,610*	*$3,394*	*$16,150*	*$0*	*$2,183,811*
Non-Residential							
SGB Custom Commercial Rebates	$330,000	$0	$2,914	$3,707	$28,083	$0	$34,704
SGB Distributed Generation	$300,000	$0	$3,644	$3,686	$17,959	$0	$25,289
Total Non-Residential	*$630,000*	*$0*	*$6,558*	*$7,393*	*$46,042*	*$0*	*$59,992*
Low-Income[3]							
SGB LIEC: Weatherization[4]	$450,000	$217,845	$0	$0	N/A	N/A	$217,845
SGB LIEC: Bill Assistance[5]	$200,000	N/A	N/A	N/A	N/A	N/A	$193,260
Total Low-Income	*$650,000*	*$217,845*	*$0*	*$0*	*$0*	*$0*	*$411,105*
Total Energy Efficiency	***$4,160,000***	***$2,378,501***	***$10,167***	***$10,787***	***$62,192***	***$0***	***$2,654,908***
Renewable Energy Resource Technology							
SGB Solar Thermal Rebates	$540,000	$70,748	$2,917	$6,372	$57,432	$0	$137,469
Total EE & RET Plan	**$4,700,000**	**$2,449,249**	**$13,085**	**$17,160**	**$119,623**	**$0**	**$2,792,377**

[1] Totals, which are rounded to the nearest dollar, may not add due to rounding.

[2] Southwest Gas received a residual credit from its rebate processing company following the closure of the Residential Rebates program in January 2014.

[3] Low-income expenditures are included for the full program year, which is July 1, 2014 to June 30, 2015 and typically do not match the costs reported in Southwest Gas' general ledger system in the same period, due to timing differences and overlap between program years. The costs reported in the Company's general ledger system are $350,006 for the SGB LIEC: Weatherization program and $196,345 for the SGB LIEC: Bill Assistance program.

[4] Pursuant to Decision No. 72723, total expenditures for the SGB LIEC: Weatherization program including the additional $200,000 shareholder funds added to the program budget are $417,837 - with $262,541 allocated to rebates, $83,316 to administration, and $8,915 to outreach. The rebates budget category includes non-energy benefits related to health and safety improvements totaling $63,065. Program delivery and evaluation are performed by the ADOA and community agencies and therefore, the associated costs are incorporated into the administration budget category.

[5] SGB LIEC: Bill Assistance is not a rebate program and does not adhere to the above budget categories; expenditures are identified in the Program Total Cost column only.

Table 2 below shows the PY3 estimated and actual participation numbers for the period June 1, 2014 through May 31, 2015 for each program.

Table 2 – PY3: Participation

Program	Estimated Participation	Actual Participation (June 1, 2014 – May 31, 2015)
Residential		
SGB Homes	7,805	6,147
Total Residential	*7,805*	*6,147*
Non-Residential		
SGB Custom Commercial Rebates	3	0
SGB Distributed Generation	2	0
Total Non-Residential	*5*	*0*
Low-Income[1]		
SGB LIEC: Weatherization	300	154
SGB LIEC: Bill Assistance	700	1,122
Total Low-Income	*1,000*	1,276
Total Energy Efficiency	***8,810***	***7,423***
Renewable Energy Resource Technology		
SGB Solar Thermal Rebates	215	54
Total EE & RET Plan	**9,025**	**7,477**

[1] Participation for the SGB LIEC: Weatherization and Bill Assistance programs are included for the period covering July 1, 2014 through June 30, 2015.

Pursuant to Decision No. 74300, **Table 3** below is included to capture plan data for PY3.

Table 3 – PY3: Annual and Lifetime Therm Savings; Lifetime Societal Benefits, Costs and Net Benefits; and Cost-Effectiveness (Plan Data)

Program	Annual Therm Savings[1]	Lifetime Therm Savings[1]	Societal Benefits[2]	Societal Costs[2]	Net Benefits[2]	Cost-Effectiveness Ratio
Residential						
SGB Homes	5,220,697	156,620,902	$117,386,975	$19,325,299	$98,061,676	6.07
Total Residential	*5,220,697*	*156,620,902*	*$117,386,975*	*$19,325,299*	*$98,061,676*	*6.07*
Non-Residential						
SGB Custom Commercial Rebates	1,027,503	15,070,037	$9,744,616	$548,575	$9,196,041	17.76
SGB Distributed Generation	79,390	1,587,800	$1,116,160	$508,982	$607,178	2.19
Total Non-Residential	*1,106,893*	*16,657,837*	*$10,860,775*	*$1,057,557*	*$9,803,219*	*10.27*
Low-Income						
SGB LIEC: Weatherization[3]	92,984	2,092,146	$1,744,159	$666,578	$1,077,581	2.62
SGB LIEC: Bill Assistance[4]	N/A	N/A	N/A	N/A	N/A	N/A
Total Low-Income	*92,984*	*2,092,146*	$1,744,159	$666,578	$1,077,581	*2.62*
Total Energy Efficiency	***6,420,573***	***175,370,884***	***$129,991,910***	***$21,049,434***	***$108,942,476***	***6.18***
Renewable Energy Resource Technology						
SGB Solar Thermal Rebates	32,332	646,640	$454,562	$1,062,500	($607,938)	N/A[5]
Total EE & RET Plan	6,452,905	176,017,524	$130,446,472	$22,111,934	$108,334,538	5.90

[1] These values, which are rounded to the nearest whole number, represent a combination of therms and therm equivalents from electric savings. In addition, the kWh savings are combined with the natural gas therm savings as therm equivalents for the annual and total lifetime energy savings reported. The therm equivalent value is calculated as the source fuel feeding the electric power plant. Through the efficiency of the power plant and transmission and distribution line losses, the kWh saved at the point of consumption is an estimated 30 percent of the total energy that is required to provide the electric power. Therefore, to calculate the total value of energy that is saved per kWh of electricity, Southwest Gas has multiplied the kWh savings by a factor of 3.340[a] for the cost-effectiveness tests.

[2] Totals, which are rounded to the nearest dollar, may not add due to rounding.

[3] Savings for the SGB LIEC: Weatherization program includes estimated savings for the additional $200,000 shareholder funds.

[4] There are no therm savings attributable to the SGB LIEC: Bill Assistance program.

[5] Pursuant to the Gas EE Standards, cost-effectiveness is not required for RET programs.

[a] ENERGY STAR Performance Ratings Methodology for Incorporating Source Energy Use, March 2011.

Pursuant to Decision No. 74300, **Table 4** below is included to capture actual data. Please note, data reported in the column titled Societal Benefits is limited (per the current Staff-approved method) to only natural gas savings associated with each EE & RET program.

Table 4 – PY3: Annual and Lifetime Therm Savings; Lifetime Societal Benefits, Costs and Net Benefits; and Cost-Effectiveness (Actual Data)

Program	Annual Therm Savings[1]	Lifetime Therm Savings[1]	Societal Benefits[2]	Societal Costs[2]	Net Benefits[2]	Cost-Effectiveness Ratio
Residential						
SGB Homes	3,985,165	119,554,959	$126,160,227	$15,182,804	$110,977,423	8.31
Total Residential	*3,985,165*	*119,554,959*	*$126,160,227*	*$15,182,804*	*$110,977,423*	*8.31*
Non-Residential						
SGB Custom Commercial Rebates	0	0	$0	$0	$0	0.00
SGB Distributed Generation	0	0	$0	$0	$0	0.00
Total Non-Residential	*0*	*0*	*$0*	*$0*	*$0*	*0.00*
Low-Income						
SGB LIEC: Weatherization[3]	44,706	1,005,876	$1,029,575	$336,321	$693,254	3.06
SGB LIEC: Bill Assistance[4]	N/A	N/A	N/A	N/A	N/A	N/A
Total Low-Income	*44,706*	*1,005,876*	*$1,029,575*	*$336,321*	*$693,254*	*3.06*
Total Energy Efficiency	***4,029,871***	***120,560,835***	***$127,189,802***	***$15,519,125***	***$111,670,677***	***8.20***
Renewable Energy Resource Technology						
SGB Solar Thermal Rebates	6,152	123,040	$98,692	$274,621	($175,929)	N/A[5]
Total EE & RET Plan	4,036,023	120,683,875	$127,288,494	$15,793,746	$111,494,747	8.06

[1] These values, which are rounded to the nearest whole number, represent a combination of therms and therm equivalents from electric savings. In addition, the kWh savings are combined with the natural gas therm savings as therm equivalents for the annual and total lifetime energy savings reported. The therm equivalent value is calculated as the source fuel feeding the electric power plant. Through the efficiency of the power plant and transmission and distribution line losses, the kWh saved at the point of consumption is an estimated 30 percent of the total energy that is required to provide the electric power. Therefore, to calculate the total value of energy that is saved per kWh of electricity, Southwest Gas has multiplied the kWh savings by a factor of 3.340[b] for the cost-effectiveness tests.

[2] Totals, which are rounded to the nearest dollar, may not add due to rounding.

[3] Savings for the SGB LIEC: Weatherization program includes savings for the additional $200,000 shareholder funds.

[4] There are no therm savings attributable to the SGB LIEC: Bill Assistance program.

[5] Pursuant to the Gas EE Standards, cost-effectiveness is not required for RET programs.

[b] ENERGY STAR Performance Ratings Methodology for Incorporating Source Energy Use, March 2011

PY3 estimated and actual participation and therm and kWh savings needed to calculate therm equivalent savings for the period June 1, 2014 through May 31, 2015 for each Commission-approved program and measure are shown in **Tables 5 through 9** below. The plan cost-effectiveness ratio per measure calculated by Southwest Gas, and the actual cost-effectiveness ratio are also included in the tables.

The plan cost-effectiveness ratio per measure as last calculated by Staff[c] is included in Staff's report dated May 30, 2014, in Docket No. G-01551A-13-0170, which is included in **Appendix A**.

Table 5 – PY3: SGB Homes

Measure	Estimated Participation	Paid	Savings		Cost-Effectiveness Ratio	
			therms	kWh	Plan	Actual
ENERGY STAR Home Certification – Tier 1	2,849	2,263	309,383	26,294,228	7.14	10.86
ENERGY STAR Home Certification – Tier 2	4,956	3,884	670,435	61,787,483	5.76	7.54
Total Homes	**7,805**	**6,147**	**979,817**	**88,081,711**	**6.07**	**8.31**

Table 6 – PY3: SGB Custom Commercial Rebates

Measure	Estimated Participation	Paid	Savings		Cost-Effectiveness Ratio	
			therms	kWh	Plan	Actual
Custom Rebates	3	0	0	N/A	17.76	0.00

Table 7 – PY3: SGB Distributed Generation

Measure	Estimated Participation	Paid	Savings		Cost-Effectiveness Ratio	
			therms	kWh	Plan	Actual
Fuel efficiency ≥ 60%	0	0	0	0	0.00	0.00
Fuel efficiency ≥ 65%	0	0	0	0	0.00	0.00
Fuel efficiency ≥ 70%	2	0	0	0	2.19	0.00
Total	**2**	**0**	**0**	**0**	**2.19**	**0.00**

[c] Pursuant Decision No. 74300.

Table 8 – PY3: SGB Low-Income Energy Conservation

Measure	Estimated Participation	Actual Participaton[1]	Savings[1]		Cost-Effectiveness Ratio	
			therms	kWh	Plan	Actual
Weatherization – Homes Assisted	300	154	5,149	1,159,347	2.62	3.06
Bill Assistance – Households Served	700	1,122	N/A	N/A	N/A	N/A
Total	**1,000**	**1,276**	**5,149**	**1,159,347**	**2.62**	**3.06**

[1] Participation and savings are included for the period covering July 1, 2013 through June 30, 2014.

Table 9 – PY3: SGB Solar Thermal Rebates

Measure	Estimated Participation	Paid	Savings	
			therms	kWh
Residential Solar Water Heating System	211	54	6,152	N/A
Non-Residential Solar Water Heating System	3	0	0	N/A
Non-Residential Solar Pool Heating System	1	0	0	N/A
Total	**215**	**54**	**6,152**	**N/A**

PY4 (June 1, 2015 – May 31, 2016) Overview

Southwest Gas' data for June 2015, the first month of PY4, is set forth in Tables 10 through 18.

Table 10 below shows the total PY4 approved annual budget of $4.7 million and the expenditures between June 1, 2015 and June 30, 2015 identified by program and budget category.

Table 10 – PY4: Budget and Expenditures

Program	Annual Budget	Expenditures (June 1, 2015 – June 30, 2015)[1]					
		Rebates	Administration	Outreach	Delivery	MV&E	Program Total Cost
Residential							
SGB Homes	$2,880,000	$155,600	$0	$0	$4,200	$0	$159,800
Total Residential	*$2,880,000*	*$155,600*	*$0*	*$0*	*$4,200*	*$0*	*$159,800*
Non-Residential							
SGB Custom Commercial Rebates	$330,000	$0	$0	$0	$2,134	$0	$2,134
SGB Distributed Generation	$300,000	$0	$38	$0	$384	$0	$422
Total Non-Residential	*$630,000*	*$0*	*$38*	*$0*	*$2,518*	*$0*	*$2,556*
Low-Income[2]							
SGB LIEC: Weatherization	$450,000	N/A	N/A	N/A	N/A	N/A	N/A
SGB LIEC: Bill Assistance	$200,000	N/A	N/A	N/A	N/A	N/A	N/A
Total Low-Income	*$650,000*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
Total Energy Efficiency	***$4,160,000***	***$155,600***	***$38***	***$0***	***$6,718***	***$0***	***$162,356***
Renewable Energy Resource Technology							
SGB Solar Thermal Rebates	$540,000	$1,449	$0	$0	$0	$0	$1,449
Total EE & RET Plan	**$4,700,000**	**$157,049**	**$38**	**$0**	**$6,718**	**$0**	**$163,805**

[1] Totals, which are rounded to the nearest dollar, may not add due to rounding.
[2] The SGB LIEC program operates on a fiscal year from July through June; therefore, expenditures for the period covering June 1, 2015 through June 30, 2015 are included in Table 1 for PY3.

Table 11 below shows the PY4 estimated and actual participation numbers for the period June 1, 2015 through June 30, 2015 for each program.

Table 11 – PY4: Participation

Program	Estimated Participation	Actual Participation (June 1, 2015 – June 30, 2015)
Residential		
SGB Homes	7,805	418
Total Residential	*7,805*	*418*
Non-Residential		
SGB Custom Commercial Rebates	3	0
SGB Distributed Generation	2	0
Total Non-Residential	*5*	*0*
Low-Income[1]		
SGB LIEC: Weatherization	300	N/A
SGB LIEC: Bill Assistance	700	N/A
Total Low-Income	*1,000*	N/A
Total Energy Efficiency	***8,810***	***418***
Renewable Energy Resource Technology		
SGB Solar Thermal Rebates	215	1
Total EE & RET Plan	**9,025**	**419**

[1] The SGB LIEC program operates on a fiscal year from July through June; therefore, participation for the period covering June 1, 2015 through June 30, 2015 is included in Table 2 for PY3.

Pursuant to Decision No. 74300, **Table 12** below is included to capture plan data for PY4.

Table 12 – PY4: Annual and Lifetime Therm Savings; Lifetime Societal Benefits, Costs and Net Benefits; and Cost-Effectiveness (Plan Data)

Program	Annual Therm Savings[1]	Lifetime Therm Savings[1]	Societal Benefits[2]	Societal Costs[2]	Net Benefits[2]	Cost-Effectiveness Ratio
Residential						
SGB Homes	5,220,697	156,620,902	$118,551,256	$19,286,726	$99,264,530	6.15
Total Residential	*5,220,697*	*156,620,902*	*$118,551,256*	*$19,286,726*	*$99,264,530*	*6.15*
Non-Residential						
SGB Custom Commercial Rebates	1,027,503	15,070,037	$10,123,897	$547,480	$9,576,418	18.49
SGB Distributed Generation	79,390	1,587,800	$1,159,603	$507,966	$651,637	2.28
Total Non-Residential	*1,106,893*	*16,657,837*	*$11,283,500*	*$1,055,446*	*$10,228,055*	*10.69*
Low-Income						
SGB LIEC: Weatherization[3]	92,984	2,092,146	$1,752,420	$665,399	$1,087,020	2.63
SGB LIEC: Bill Assistance[4]	N/A	N/A	N/A	N/A	N/A	N/A
Total Low-Income	*92,984*	*2,092,146*	$1,752,420	$665,399	$1,087,020	*2.63*
Total Energy Efficiency	***6,420,573***	***175,370,884***	***$131,587,176***	***$21,007,571***	***$110,579,605***	***6.26***
Renewable Energy Resource Technology						
SGB Solar Thermal Rebates	32,332	646,640	$472,254	$1,060,379	($588,125)	N/A[5]
Total EE & RET Plan	6,452,905	176,017,524	$132,059,430	$22,067,950	$109,991,480	5.98

[1] These values, which are rounded to the nearest whole number, represent a combination of therms and therm equivalents from electric savings. In addition, the kWh savings are combined with the natural gas therm savings as therm equivalents for the annual and total lifetime energy savings reported. The therm equivalent value is calculated as the source fuel feeding the electric power plant. Through the efficiency of the power plant and transmission and distribution line losses, the kWh saved at the point of consumption is an estimated 30 percent of the total energy that is required to provide the electric power. Therefore, to calculate the total value of energy that is saved per kWh of electricity, Southwest Gas has multiplied the kWh savings by a factor of 3.340[d] for the cost-effectiveness tests.

[2] Totals, which are rounded to the nearest dollar, may not add due to rounding.

[3] Savings for the SGB LIEC: Weatherization program includes estimated savings for the additional $200,000 shareholder funds.

[4] There are no therm savings attributable to the SGB LIEC: Bill Assistance program.

[5] Pursuant to the Gas EE Standards, cost-effectiveness is not required for RET programs.

[d] ENERGY STAR Performance Ratings Methodology for Incorporating Source Energy Use, March 2011

Pursuant to Decision No. 74300, **Table 13** below is included to capture actual data for PY4. Please note data reported in the column titled Societal Benefits is limited (per the current Staff-approved method) to only natural gas savings associated with each EE & RET program.

Table 13 – PY4: Annual and Lifetime Therm Savings; Lifetime Societal Benefits, Costs and Net Benefits; and Cost-Effectiveness (Actual Data)

Program	Annual Therm Savings[1]	Lifetime Therm Savings[1]	Societal Benefits[2]	Societal Costs[2]	Net Benefits[2]	Cost-Effectiveness Ratio
Residential						
SGB Homes	264,905	7,947,138	$8,170,869	$1,069,700	$7,101,169	7.64
Total Residential	*264,905*	*7,947,138*	*$8,170,869*	*$1,069,700*	*$7,101,169*	7.64
Non-Residential						
SGB Custom Commercial Rebates	0	0	$0	$0	$0	0.00
SGB Distributed Generation	0	0	$0	$0	$0	0.00
Total Non-Residential	*0*	*0*	*$0*	*$0*	*$0*	*0.00*
Low-Income[3]						
SGB LIEC: Weatherization	N/A	N/A	N/A	N/A	N/A	N/A
SGB LIEC: Bill Assistance[4]	N/A	N/A	N/A	N/A	N/A	N/A
Total Low-Income	*N/A*	*N/A*	N/A	N/A	N/A	*N/A*
Total Energy Efficiency	***264,905***	***7,947,138***	***$8,170,869***	***$1,069,700***	***$7,101,169***	***7.64***
Renewable Energy Resource Technology						
SGB Solar Thermal Rebates	126	2,520	$1,914	$3,850	($1,936)	N/A[5]
Total EE & RET Plan	265,031	7,949,658	$8,172,782	$1,073,550	$7,099,232	7.61

[1] These values, which are rounded to the nearest whole number, represent a combination of therms and therm equivalents from electric savings. In addition, the kWh savings are combined with the natural gas therm savings as therm equivalents for the annual and total lifetime energy savings reported. The therm equivalent value is calculated as the source fuel feeding the electric power plant. Through the efficiency of the power plant and transmission and distribution line losses, the kWh saved at the point of consumption is an estimated 30 percent of the total energy that is required to provide the electric power. Therefore, to calculate the total value of energy that is saved per kWh of electricity, Southwest Gas has multiplied the kWh savings by a factor of 3.340e for the cost-effectiveness tests.

[2] Totals, which are rounded to the nearest dollar, may not add due to rounding.

[3] The SGB LIEC program operates on a fiscal year from July through June; therefore, actual data for the period covering June 1, 2015 through June 30, 2015 is included in Table 4 for PY3.

[4] There are no therm savings attributable to the SGB LIEC: Bill Assistance program.

[5] Pursuant to the Gas EE Standards, cost-effectiveness is not required for RET programs.

[e] ENERGY STAR Performance Ratings Methodology for Incorporating Source Energy Use, March 2011

The estimated and actual participation and therm and kWh savings needed to calculate therm equivalent savings for the PY4 period June 1, 2015 through June 30, 2015 for each Commission-approved program and measure are shown below in **Tables 14 through 18.** The plan cost-effectiveness ratio per measure calculated by Southwest Gas, and the actual cost-effectiveness ratio are also included in the tables based on program participation through June 30, 2015.

The plan cost-effectiveness ratio per measure as last calculated by Staff[f] is included in Staff's report dated May 30, 2014 in Docket No. G-01551A-13-0170, which is included in **Appendix A.**

Table 14 – PY4: SGB Homes

Measure	Estimated Participation	Paid	Savings		Cost-Effectiveness Ratio	
			therms	kWh	Plan	Actual
ENERGY STAR Home Certification – Tier 1	2,849	130	15,542	1,468,134	7.23	9.99
ENERGY STAR Home Certification – Tier 2	4,956	288	46,386	4,480,770	5.82	7.09
Total Homes	**7,805**	**418**	**61,928**	**5,948,904**	**6.15**	**7.64**

Table 15 – PY4: SGB Custom Commercial Rebates

Measure	Estimated Participation	Paid	Savings		Cost-Effectiveness Ratio	
			therms	kWh	Plan	Actual
Custom Rebates	3	0	0	N/A	18.49	0.00

Table 16 – PY4: SGB Distributed Generation

Measure	Estimated Participation	Paid	Savings		Cost-Effectiveness Ratio	
			therms	kWh	Plan	Actual
Fuel efficiency $\geq$ 60%	0	0	0	0	0.00	0.00
Fuel efficiency $\geq$ 65%	0	0	0	0	0.00	0.00
Fuel efficiency $\geq$ 70%	2	0	0	0	2.28	0.00
Total	**2**	**0**	**0**	**0**	**2.28**	**0.00**

[f] Pursuant Decision No. 74300.

Table 17 – PY4: SGB Low-Income Energy Conservation

Measure	Estimated Participation	Actual Participaton[1]	Savings[1]		Cost-Effectiveness Ratio	
			therms	kWh	Plan	Actual
Weatherization – Homes Assisted	300	N/A	N/A	N/A	N/A	N/A
Bill Assistance – Households Served	700	N/A	N/A	N/A	N/A	N/A
Total	**1,000**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**

[1] The SGB LIEC program operates on a fiscal year from July through June; therefore, participation and savings for the period covering June 1, 2014 through June 30, 2015 is included in Table 8 for PY3.

Table 18 – PY4: SGB Solar Thermal Rebates

Measure	Estimated Participation	Paid	Savings	
			Therms	kWh
Residential Solar Water Heating System	211	1	126	N/A
Non-Residential Solar Water Heating System	3	0	0	N/A
Non-Residential Solar Pool Heating System	1	0	0	N/A
Total	**215**	**1**	**126**	**N/A**

Conclusion

Southwest Gas' Homes program continues to experience increased program participation and cost-effective energy savings for customers, but the termination of Southwest Gas' Residential and Commercial Rebate programs has limited the Company's EE & RET program and its effectiveness in promoting the increased use of energy-efficient natural gas end-use appliances in Arizona.

Southwest Gas has proposed in its EE & RET Implementation Plan for PY5, Docket No. G-01551A-15-0168 filed May 28, 2015, to restore a robust menu of cost-effective commercial rebates, and looks forward to presenting the Commission with an even more comprehensive EE & RET Implementation Plan for PY6. However, as noted previously, there are challenges associated with successfully launching new EE & RET programs. It takes time to establish required relationships with trade allies and contractors. It also takes time to make customers aware of, and for customers to become familiar with newly available EE & RET programs. Consequently, for Southwest Gas' EE & RET programs to be most successful, there must be continuity in the programs from year to year.

Additionally, to achieve the greatest overall energy and water efficiency, consideration should be given to the effect on the state's energy resources when

natural gas is not used in homes and businesses for water heating, cooking, clothes drying and space heating. When electric appliances are substituted for natural gas, the net result is increased demand for electricity, increased carbon and other greenhouse gas emissions, increased long-run electric generation capacity requirements, potential increased demand for water in the generation process and upward pressure on resource costs.

To fully evaluate how natural gas service benefits all of Arizona's energy and water stakeholders, it is necessary to consider source energy efficiency as well as site energy efficiency. When comparing electric (kwh) and natural gas (therm) site energy requirements, the United States Environmental Protection Agency estimates that 3.34 times more source energy is required to produce and deliver the kwh site energy; whereas only 1.05 times more source energy is needed to produce and deliver the therm site energy. The result is more than twice as much energy overall is required when electric appliances are substituted for natural gas.

As the state's only "gas-only" utility, Southwest Gas believes it is critical that both site and source energy efficiencies be considered if Arizona is to achieve the most energy efficient future possible.

Southwest Gas looks forward to its role in Arizona's energy and water future, and will continue to evaluate EE & RET programs and, if appropriate, bring those programs to the Commission's attention in future filings to ensure its EE & RET efforts address customer interests and help meet the broader energy goals of the state.