



COLORADO

**Department of
Regulatory Agencies**

Public Utilities Commission

Joshua B. Epel, Chairman
Pamela J. Patton, Commissioner
Glenn A. Vaad, Commissioner
Doug Dean, Director

Barbara J. Kelley, Executive Director
John W. Hickenlooper, Governor

Executive Office
1560 Broadway, Suite 250
Denver, CO 80202

April 30, 2015

House Business Affairs and Labor
Senate Business, Labor and Technology Committee members
Via email

Dear Legislators,

On behalf of the Colorado Public Utilities Commission I am pleased to present the seventh Annual Report on Energy Utility Demand-Side Management (DSM) to you. DSM became a requirement of all Colorado investor-owned energy utilities in 2007, pursuant to HB 07-1037, (§ 40-3.2-103 and 104, C.R.S.). This report details the progress made by each utility in meeting its DSM goals.

Since the enactment of the abovementioned statutes, the Commission has taken the actions necessary to assure that substantive and high quality DSM plans that provide an opportunity for all customers to participate are implemented in Colorado.

The attached report outlines these utilities' DSM accomplishments for 2014. We are pleased to report the continued success of electric DSM in the state of Colorado. Each electric utility continued to work towards its energy savings goal. Only one of the utilities was able to reach its energy savings goal; however, their combined investments in DSM resulted in \$145 million of economic benefits to customers. As in past years' reports, we continue to see the impacts of the low cost of natural gas limiting the success of natural gas DSM in Colorado with many gas DSM programs not achieving their savings targets. However, we also see the role that a growing state economy can play with Xcel exceeding its gas DSM goal as a result of savings from programs directed at new residential and commercial construction.

Copies of the Annual Report for each member of your committee accompany this letter. An electronic copy is also being provided to each member of the General Assembly.

We look forward to dialoguing with you and your committee regarding this report.

Sincerely,

Doug Dean
Director



Public Utilities Commission
2015 Report to the Colorado General Assembly
on Demand Side Management
Pursuant to § 40-3.2-105, C.R.S.

Contents

Executive Summary 1

 2014 DSM Results 1

Introduction..... 2

 Investing in DSM and Cost-Effectiveness 2

 Background 4

ELECTRIC DSM..... 4

 Overall Results for 2014 4

 Black Hills/Colorado Electric Utility Company LP..... 5

 Public Service Company of Colorado..... 5

GAS DSM..... 7

 Overall Results for 2014 7

 Atmos Energy Corporation 8

 Black Hills/Colorado Gas Utility Company LP..... 9

 Colorado Natural Gas, Inc. 9

 Public Service Company of Colorado..... 10

 SourceGas Distribution LLC 11

Executive Summary

Each year, on or before April 30, the Colorado Public Utilities Commission (Commission) submits a report to the Colorado General Assembly describing the progress the state's investor-owned utilities (IOUs) have made toward meeting their Demand Side Management (DSM) goals. The statute requires electric utilities to meet two complementary goals: reducing overall energy use from customers and cutting peak demand (maximum amount of power the utility has to provide to meet customer need). This report summarizes results for the 2014 program year using information provided by the utilities in their annual DSM reports submitted to the Commission by April 1.¹ The Commission makes no recommendations to the General Assembly regarding statutory changes that would further the legislative intent of §§ 40-3.2-103 or 40-3.2-104, C.R.S. The Commission continues monitoring utility DSM filings and reports to understand how natural gas prices are impacting participation in and the cost-effectiveness of gas DSM programs.

In the six years since the passage of House Bill 10-1037, which enacted the energy efficiency statutes, Colorado's two electric IOUs have created \$1.3 billion in net economic benefits for customers.

On June 18, 2014, the Environmental Protection Agency (EPA) issued proposed rules to reduce carbon emissions from electricity generation in the United States. The proposed rules include demand-side energy efficiency as an option for states in their compliance plans. While the EPA has not issued final rules, the Commission and other state agencies are working to ensure Colorado receives credit for its DSM investments.

2014 DSM Results

In 2014, Public Service Company of Colorado (Public Service) exceeded its electric energy savings goals. Black Hills/Colorado Electric Utility Company LP (Black Hills Electric) achieved 80 percent of its electric energy savings goals. Public Service met 94 percent of its demand reduction goals; Black Hills achieved 67 percent. Combined, the two electric utilities reduced annual energy use by 409 million kilowatt hours (kWh). Public Service avoided 285,870 tons of CO₂ emission in 2014.² Electric DSM investments totaled \$82.1 million and resulted in \$145 million of net economic benefits for

¹ A utility annual report compares actual performance to Commission-approved targets or goals as presented in the utility's most recent DSM Plan.

² Black Hills Electric did not report avoided emissions. Public Service also reports the lifetime CO₂ emission savings for its 2014 electric program as 3,905,709 tons.

customers.³ The five Investor Owned Utilities administering natural gas DSM programs in 2014 spent a combined total of \$15.5 million, saved 682,675 dekatherms (Dth) of Natural Gas, and provided \$25.4 million of net economic benefits to customers. Black Hills/Colorado Gas Utility, LP and Public Service each exceeded their 2014 Gas DSM Plan saving goals. Atmos Energy Corporation, SourceGas Distribution LLC, and Colorado Natural Gas (CNG) fell short of their respective Commission-approved saving goal.

Introduction

Colorado's IOUs implement DSM programs pursuant to the directives in § 40-3.2-103, C.R.S., for gas utilities and § 40-3.2-104, C.R.S., for electric utilities. While differences exist between these statutes, they generally direct the Commission to:

- Allow utilities to establish DSM programs to achieve energy and demand savings;
- Afford opportunities for all customer classes to participate in utility run DSM programs;
- Ensure that DSM programs are cost-effective; and,
- Provide that DSM investments are at least as financially beneficial for utilities as other investments.

Each regulated electric and gas utility has filed its 2014 DSM Annual Report with the Commission. The annual reports provide the Commission with a comparison of DSM savings results to each utility's approved DSM Plan. The tables in this report compare the approved DSM budget with the actual DSM expenditures; the approved energy savings goal with the actual energy savings; the estimated demand savings goal with the actual demand savings (for electric DSM Plans only); and the planned benefit to cost ratio with the actual benefit to cost ratio. This information is presented by market segments, as defined by each utility in its DSM Plan, as well as the overall plan.

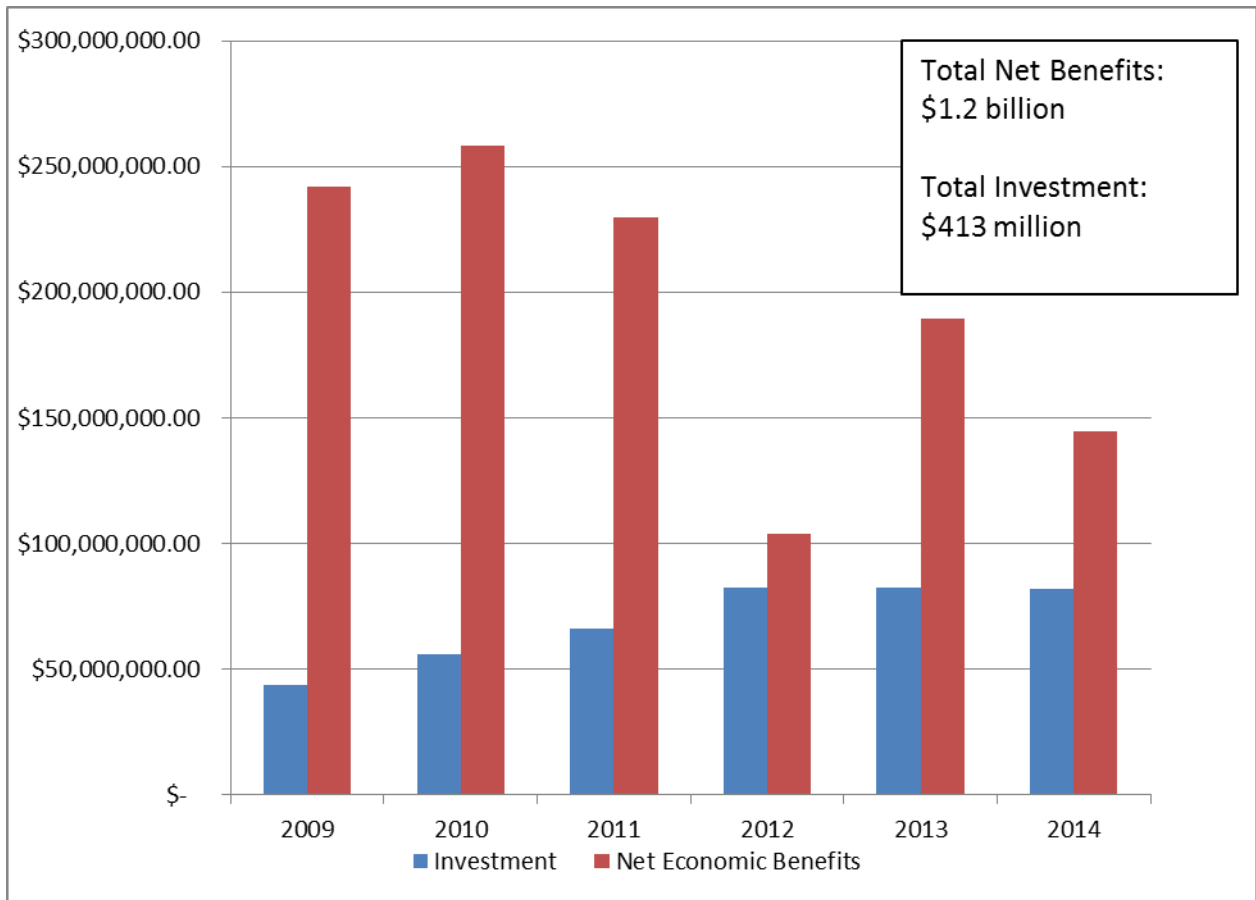
Investing in DSM and Cost-Effectiveness

DSM programs are one of the resources a utility can use to meet its customers' energy (or demand in the case of electricity) needs. Rather than increasing supply by building new power plants or selling and delivering more natural gas, DSM investments help utility customers reduce their energy consumption thus reducing the amount of energy that a utility needs to supply. DSM delivers benefits to the utility, to

³ Net economic benefits show the monetary benefits to customers of utility investments in energy efficiency after subtracting the costs for those investments.

customers who participate in programs, to utility customers who do not participate in DSM programs, and to Colorado generally. For the electric utilities, these benefits include avoiding the building of a new power plant, reducing fuel usage and Green House Gas emissions, and delaying the construction of a new transmission line.

Figure 1: Combined Annual Investment in Electric DSM and Customer Net Benefits



By law DSM must be cost-effective, which is defined as having a Total Resource Cost Test (TRC) value of greater than 1. A TRC value above 1 indicates that DSM is a lower cost resource than a supply side alternative (*i.e.*, a new power plant). In calculating a value, the TRC test counts the benefits and costs of a utility’s investment in DSM from the perspective of the utility and all of its customers. Colorado uses a modified version of the TRC (thus called the MTRC) that includes a net measurement of the costs and benefits of some non-energy benefits that result from DSM, such as pollution reduction.

Background

Section 40-3.2-104(2), C.R.S., directs the Commission to permit electric IOUs to implement cost-effective DSM programs that will reduce overall energy consumption (or use) from customers and reduce peak demand (the maximum amount of power that the utility needs to have available to meet customer needs). Utilities must reduce energy use and demand each by 5 percent by 2018 from a baseline year of 2006. The statute also authorizes the Commission to establish other energy and demand goals, which it has done. The Commission establishes each utility's energy and demand savings goals based on consideration of the utility's historic achievement, its proposed DSM Plan, and the legislative direction that the Commission should take into account "the utility's cost-effective DSM potential, the need for electricity resources, the benefits of DSM investments, and other factors as determined by the commission."

The statute requiring gas DSM programs (§ 40-3.2-103, C.R.S.) establishes a minimum spending requirement for each utility, but does not prescribe any savings goals. Because Colorado gas utilities vary widely in the number and kinds of customers that they serve, the Commission's rules require that each utility shall propose gas savings goals consistent with its spending requirement under § 40-3.2-103(2)(a), C.R.S., as part of its DSM Plan filings. The Commission approves final savings goals as part of its approval of a company's DSM Plan.⁴ For many of the smaller gas utilities the minimum spending requirement dictates the amount of energy savings they strive to attain in their DSM program.

ELECTRIC DSM

Overall Results for 2014

Colorado's electric DSM statute applies to Black Hills Electric and Public Service (more commonly known as Xcel Energy). Their combined DSM investments resulted in net economic benefits of \$145 million. The 2014 electric DSM Plans continued to have success in addition to providing economic benefits to customers. Combined, the two utilities reduced energy use by 409 million kWh. Combined, each \$1 invested in electric DSM resulted in \$1.76 in benefits to electric customers.

The tables below present an overview of some of the results for each utility.

⁴ The statute directs the Commission to adopt "DSM program expenditure targets equal to at least one-half of one percent of a natural gas utility's revenues from its full service customers in the year prior to setting such targets". Rule 4 *Code of Colorado Regulations* 723-4-4753(h)(I) of the Commission's Rules Regulating Gas Utilities and Pipeline Operators, states that, "The utility's annual expenditure target for DSM programs shall be, at a minimum, two percent of a natural gas utility's base rate revenues, (exclusive of commodity costs), from its sales customers in the 12-month calendar period prior to setting the targets, or one-half of one percent of total revenues from its sales customers in the 12-month calendar period prior to setting the targets, whichever is greater."

Results of Electric DSM in 2014 as a Percent of Goal

	Percent of Energy Goal Achieved	Percent of Demand Goal Achieved	Percent of Budget Spent
Black Hills	80%	67%	109%
PSCo	104%	94%	88%

Black Hills/Colorado Electric Utility Company LP

For their 2014 Electric DSM Plan, Black Hills Electric achieved 67 percent of its demand savings goal and 80 percent of its Commission established energy savings goal. The company spent 109 percent of its approved Electric DSM budget. In its plan, Black Hills Electric proposed an MTRC score of 3.54 for its portfolio. The company achieved an MTRC of 2.02. While this was below the proposed goal, an MTRC score above 1 shows DSM programs are cost-effective. Based on its performance, Black Hills Electric did not earn an incentive.

Black Hills Energy 2012-2013 Electric DSM						
Market Segment	Commission Approved Budget	Actual Expenditure	Energy Savings Goal (kWh)	Actual Energy Savings (kWh)	Demand Reduction Goal (kW)	Actual Demand Reduction (kW)
Residential	\$828,731	\$1,251,532	6,679,991	8,031,228	1,320	1,203
Nonresidential	\$3,164,082	\$2,940,163	13,964,289	8,018,993	4,118	2,249
Special (Low-Income/School Energy Education)	\$741,472	\$953,106	1,641,332	1,779,515	904	805
Total	\$4,734,284	\$5,144,800	22,285,611	17,829,736	6,341	4,256

Public Service Company of Colorado

In 2014, Public Service achieved 104 percent of its energy savings goal and 94 percent of its demand savings goal. The company spent 88 percent of its approved budget. Public Service proposed an

MRTC score of 1.90 in its plan and achieved an MTRC score of 1.89.⁵ Based on its performance, the company earned a financial incentive of \$12,905,183 on an investment of just over \$76.9 million.

In approving Public Service’s last DSM Strategic Issues application, the Commission directed the company to track and report the number of customers participating in its DSM program offerings.⁶ Based on its analysis, Public Service reports that overall 40 percent of its customers participated in DSM programs in 2014. Approximately 483,000 out of 1.2 million residential customers participated in programs (41.94 percent). However, only 18.93 percent of business customers participated in programs (18,360 out of a total of 96,990 business customers).

Despite only 18 percent of business customers participating in DSM measures, the business DSM program still reached 87 percent of its goal. Savings in the business segment were driven by lighting efficiency as well as the company’s new construction efficiency programs. The residential segment achieved 145 percent of its goal, which Public Service attributes to the high savings in its Energy Star® New Homes, High Efficiency Air Conditioning, Home Lighting and & Recycling, and Refrigerator Recycling programs. The company reports that 358,876 customers participated in the Home Lighting and & Recycling measure.

Public Service Company of Colorado 2013 Electric DSM						
Market Segment	Commission Approved Expenditure	Actual Expenditure	Energy Savings Goal (kWh)	Actual Energy Savings (kWh)	Demand Reduction Goal (kW)	Actual Demand Reduction (kW)
Business	\$ 47,347,362	\$ 38,441,547	243,705,215	210,899,234	41,057	34,577
Residential	\$ 31,189,213	\$ 39,560,215	99,744,869	144,243,166	36,345	38,311
Low Income	\$ 2,941,590	\$ 3,168,007	8,169,590	6,807,840	1,029	869
Indirect	\$ 6,285,330	\$ 4,792,515	34,479,365	29,664,967	8,189	7,200
Total	\$ 87,763,495	\$ 76,962,284	386,099,040	391,615,207	86,957	80,957

⁵ The MTRC of 1.89 is before the cost of the bonus. After accounting for the bonus, Public Service achieved an MTRC score of 1.76.

⁶ See Decision Nos. C14-0731 issued July 1, 2014 and C14-0997 issued August 18, 2014 in Proceeding No. 13A-0686EG.

The following table shows that each segment of Public Service’s 2014 DSM programs was cost effective, with an MTRC score above 1.

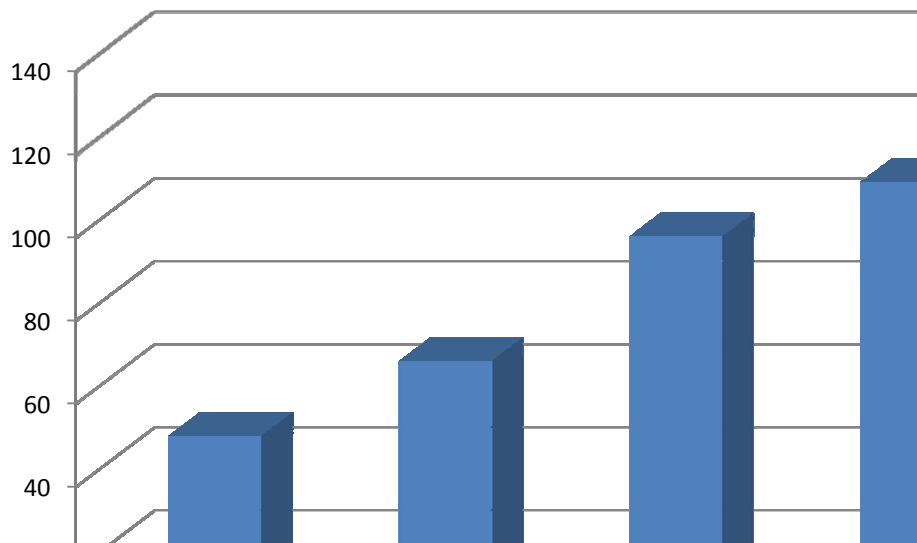
Market Segment	Planned Benefit to Cost Ratio	Actual Benefit to Cost Ratio
Business	1.71	1.63
Residential	2.76	2.32
Low Income	1.65	1.16
Average	1.90	1.89

GAS DSM

Overall Results for 2014

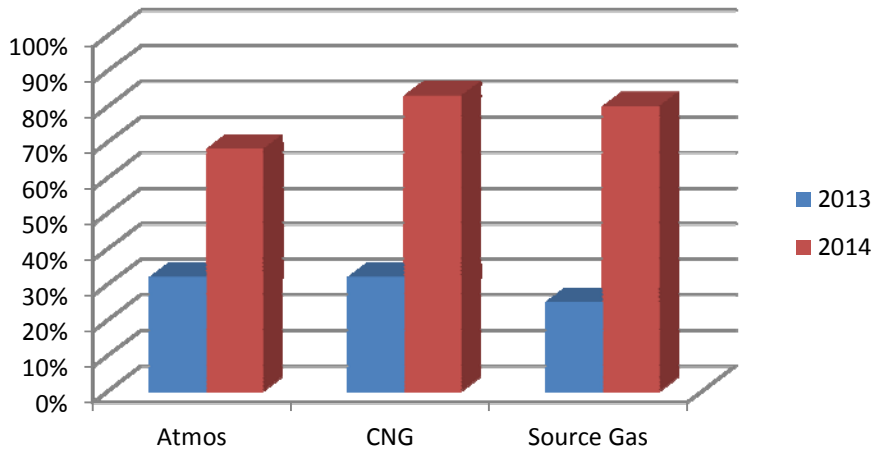
Five IOUs administer gas DSM programs pursuant to § 40-3.2-103, C.R.S. Combined, the utilities spent \$15.5 million and saved 682,675 dekatherms of natural gas, which was 96 percent of their combined energy goals. All of the utilities had cost effective programs. Public Service and Black Hills exceeded their natural gas savings goals (expressed in therms or dekatherms). Atmos reached 90 percent of its savings target while the other two smaller IOUs continued to face challenges in reaching their savings goals in 2014. SourceGas and Colorado Natural Gas (CNG) sited low and stable prices for natural gas and warmer temperatures (especially in key heating months) as factors depressing customer interest in participating in gas DSM programs. Despite these challenges, both utilities saw increased customer participation over 2013. Further, the Commission notes that, consistent with the intent of the statute, utility investments in gas DSM help customers reduce their energy bills.

Percent of Gas DSM Energy Savings Goal by Utility in 2014



Atmos, Colorado Natural Gas, and SourceGas report significant increases in customer participation. Atmos reached 68 percent of its participation goal, up from 32 percent in 2013. In 2014, CNG reached 83 percent of its goal, up from 32 percent customer participation in 2013. SourceGas' participation rate rose from 25 percent of its goal in 2013 to 80 percent of goal in 2014.

Percent of Customer Participation Goal for Gas Only LDCs in 2013 and 2014



Atmos Energy Corporation

Atmos Energy Corporation (Atmos Energy) achieved 96 percent of its approved 2014 DSM energy savings goal. The company reports that savings from low-income weatherization measures (*i.e.*, the Income Qualified program) and high-custom efficiency drove overall portfolio performance. Atmos Energy's overall spending in 2014 came in at 85 percent of its approved budget. Atmos did not earn a financial incentive in 2014.

Atmos Energy Corporation 2013 Gas DSM						
Market Segment	Proposed (Approved Expenditure)	Actual Expenditure	Energy Savings Goal (therms)	Actual Energy Savings (therms)	Planned Benefit to Cost Ratio	Actual Benefit to Cost Ratio
Energy Audit	\$39,546	\$14,849	7,370	939	0.46	0.37
Efficient Rebate Program	\$163,389	\$99,448	69,420	33,299	1.48	1.19
Income Qualified Program/Fuel Conversion	\$280,049	\$285,251	77,200	109,567	1.60	1.25
Energy Efficiency Kits	\$34,689	\$12,257	10,800	10,416	1.91	2.69
Custom Efficiency	\$88,250	\$102,322	24,500	28,019	1.01	1.18
TOTAL	\$605,923	\$514,127	189,290	182,240	1.41	1.23

Black Hills/Colorado Gas Utility Company LP

Black Hills/Colorado Gas Utility Company LP (Black Hills Gas) achieved 129 percent of its Commission approved natural gas savings goal and spent 122 percent of its approved budget. The Company attributes improved customers savings to higher levels of participation resulting from the company's marketing and outreach efforts.

Black Hills states that its gas DSM investment resulted in \$840, 908 in net benefits to customers. Based on its performance, the company earned a performance based bonus of \$168,182.

Black Hills Energy 2013 Gas DSM						
Market Segment	Proposed (Approved Expenditure)	Actual Expenditure	Energy Savings Goal (Dth)	Actual Energy Savings (Dth)	Planned Benefit to Cost Ratio	Actual Benefit to Cost Ratio
Residential	\$949,900	939,789	24,107	26,555	1.26	1.29
Non-Residential	\$215,900	244,617	6,034	9,158	2.58	1.82
Special (Low- Income/School Energy Education)	\$131,200	143,708	3,365	7,570	2.43	.68
Cross-Programs ⁷	239,300	538,804				
TOTAL	\$1,536,300	\$1,866,918	33,506	43,283	2.09⁸	1.86

Colorado Natural Gas, Inc.

Colorado Natural Gas, Inc. (CNG) reports that it reached 48 percent of its energy savings goal for 2014 and spent only 38 percent of its proposed budget. CNG made changes to its website and streamlined other processes in 2014, which resulted in an increase in the number of customers participating in DSM programs in 2014. Despite the increase in the customer participation, CNG did not reach its plan participation goals. The company attributes lower than expected participation to the

⁷ Black Hills defines "cross-program" expenses as training, marketing, and administration.

⁸ The planned MTRC values come from Black Hills Natural Gas Energy Efficiency Plan 2012-2014 (2014-2014 Plan). See page ES-3. In the 2012-2014 Plan, the Company reports MTRC projections for 4 programs as compared with three programs reports in its most recent annual report. The 2012-2014 Plan provides separate MTRC values for the Low-Income and School-Based programs, which are combined in the annual report. The plan MTRC value reported here for the Special Programs is the average of the values for the Low-Income and School-Based programs provided in the company's 2012-2014 Plan.

current, low cost of natural gas, which it suggests makes customers less motivated to conserve. CNG did not earn a financial incentive for 2014.

Colorado Natural Gas 2013 Gas DSM						
Market Segment	Proposed (Approved Expenditure)	Actual Expenditure	Energy Savings Goal (therms)	Actual Energy Savings (therms)	Planned Benefit to Cost Ratio	Actual Benefit to Cost Ratio
Energy Audit	\$6,412	\$3,921	630	4	.36	.001
Efficient Rebate Program	79,954	\$22,134	18,120	3,220	1.35	.72
Income Qualified	\$60,047	\$29,897	5,270	8,648	1.5	1.18
Energy Efficiency Kits	\$42,767	\$41,616	7,920	11,610	1.54	1.44
Custom Energy Efficiency Prog.	\$70,150	\$0	17,400	0	1.00	N/A
TOTAL	\$259,330	\$97,568	49,340	23,482	1.96	1.73

Public Service Company of Colorado

Public Service's gas DSM investments were cost effective in 2014 and resulted in \$24.6 million in net benefits to customers (see below). The company achieved 97 percent of its Commission approved goal for natural gas savings. It spent 102 percent of its gas DSM budget. Despite not reaching 100 percent of its goal, Public Service earned an incentive of \$3,670,118. The majority of that amount (\$3.1 million) was an acknowledgement of lost revenue as required by Commission rules.⁹

As discussed above, Public Service was directed to track participation in its DSM programs. For 2014, only 13.78 percent of the company's customers participated in gas DSM programs. Approximately 179,000 out of 1.2 million residential customers (or 14.38 percent) participated in some DSM measure.

⁹ 4 Code of Colorado Regulation (CCR) 723-4754(g)(I)

Only about 7,000 out of 107,000 business customers (6.78 percent) took advantage of Public Service's DSM programs.

Public Service Company of Colorado 2013 Gas DSM						
Market Segment	Proposed (Approved Expenditure)	Actual Expenditure	Energy Savings Goal (Dth)	Actual Energy Savings (Dth)	Planned Benefit to Cost Ratio	Actual Benefit to Cost Ratio
Business	\$1,645,000	\$1,465,635	128,688	184,688	1.48	1.94
Residential	\$5,328,687	\$6,080,016	244,306	255,633	1.50	1.92
Low-Income	\$3,307,421	\$3,323,468	86,272	74,884	1.79	1.48
Indirect	\$2,024,849	\$1,635,899	164,741	91,789		
TOTAL	\$12,305,957	\$12,505,018	623,543¹⁰	606,955	1.49	1.76

SourceGas Distribution LLC

SourceGas Distribution LLC (SourceGas) did not meet its Commission approved savings goal, which appears to result from lower than projected participation and savings in the company's rebate programs. However, both its Income Qualified Program (126 percent) and its Energy Audit Program (161 percent) exceeded participation goals and projected savings levels. Additionally, SourceGas cited its collaboration with Atmos and CNG as continuing to be a successful and effective approach. SourceGas did not earn a financial incentive for its gas DSM programs in 2014.

SourceGas Distribution LLC 2013 Gas DSM						
Market Segment	Proposed (Approved Expenditure)	Actual Expenditure	Energy Savings Goal (therm)	Actual Energy Savings (therms)	Planned Benefit to Cost Ratio	Actual Benefit to Cost Ratio
Energy Audit	\$39,141	\$64,443	567	580	.43	.50
Efficient Rebate Program	\$147,022	\$82,848	4,618	2,197	1.61	1.33
Income Qualified	\$240,380	\$200,161	5,955	6,517	1.55	1.39
Energy Efficiency Kits	\$26,974	\$18,763	986	998	2.03	2.19
Custom Program	\$325,285	\$146,914	9,800	1,534	1.52	.78
TOTAL	\$778,802	\$146,914	21,926	11,826	1.58	1.19

¹⁰ Per Decision No. R13-1204-I, Proceeding No. 13A-0773EG, Public Service's 2014 gas DSM goal was actually 558,465 Dth. This prorated savings goal reflects the roughly 8 months that the program was in effect.