



Public Utilities Commission

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

John W. Hickenlooper
Governor

Barbara J. Kelley
Executive Director

April 30, 2014

House Business, Labor, Economic and Workforce Development Committee members
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 sixth 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 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 2013. We are pleased to report the continued success of electric DSM in the state of Colorado. Each electric utility exceeded its energy savings goal. Their combined investments in DSM resulted in \$189.5 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

Cc: Colorado House Members



Public Utilities Commission
2014 Report to the Colorado General Assembly
on
Demand Side Management (DSM)
Pursuant to § 40-3.2-105, C.R.S.

Contents

Executive Summary 1

 2013 DSM Results 1

Introduction..... 2

 Investing in DSM and Cost-Effectiveness 2

 Background 3

ELECTRIC DSM..... 3

 Overall Results for 2013 3

 Black Hills/Colorado Electric Utility Company LP..... 4

 Public Service Company of Colorado..... 5

GAS DSM PERFORMANCE 6

 Overall Results for 2013 6

 Atmos Energy Corporation 7

 Black Hills/Colorado Gas Utility Company LP..... 8

 Colorado Natural Gas, Inc. 9

 The Eastern Division of Colorado Natural Gas 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) made toward meeting their Demand Side Management (DSM) goals. This report summarizes results for the 2013 program year using information provided by the utilities in their annual DSM reports submitted to the Commission by April 1 of each year. A utility annual report compares actual performance to Commission-approved targets as presented in the utility's DSM Plan.

The Commission makes no recommendations to the General Assembly regarding statutory changes that would further the legislative intent of §§ 40-3.2-103 and 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.

2013 DSM Results

In 2013, Black Hills Energy (Black Hills) and Public Service Company of Colorado (Public Service) exceeded their electric energy savings goals. Combined, they reduced annual energy use by 415 million kilowatt hours (kWh). Electric DSM investments totaled \$82.2 million and resulted in net economic benefits to customers of \$189.5 million.¹ Neither company reached its demand reduction goals for 2013.

The six investor-owned utilities (IOUs) administering natural gas DSM programs in 2013 spent a combined total of \$16 million, saved 742,240 therms of Natural Gas, and provided \$25.2 million of net economic benefits to customers. Public Service exceeded its 2013 Gas DSM Plan saving goals. The remaining five gas utilities fell short of their respective Commission-approved savings goals.

¹ Net economic benefits show the monetary benefits to customers of utility investments in energy efficiency after subtracting the costs for those investments.

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 2013 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 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 greenhouse gas emissions, or delaying the construction of a new transmission line.

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). The TRC test weighs the benefits and costs of a utility's

investment from the perspective of all of its customers. Colorado uses a modified version of the TRC (thus called the MTRC) that includes measurements of the net 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 both retail sales and peak demand by 5 percent each 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 electric and demand savings goals based on consideration of the utility's historic achievement, its proposed DSM Plan, and the legislative direction that Commissions 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 as part of its DSM Plan filings consistent with its spending requirement under § 40-3.2-103(2)(a), C.R.S. The Commission approves these goals when it approves the Company's DSM Plan.² 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 2013

Colorado's electric DSM statute applies to Black Hills and Public Service (more commonly known as Xcel Energy). Their combined DSM investments resulted in net economic benefits of \$189.5 million. In addition to providing economic benefits to customers, the 2013 electric DSM Plans continued to have

² 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 a natural gas utility's base rate revenues (exclusive of commodity costs), from its sales customers in the 12-month calendar year 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."

success with both utilities exceeding their energy savings goals. Combined they reduced energy use by 415 million kWh. Public Service and Black Hills fell just short of their respective demand savings goal. Combined, each \$1 invested in electric DSM resulted in \$2.30 in benefits to electric customers.

The tables below present detailed results for each utility.

	Percent of Energy Goal Achieved	Percent of Demand Goal Achieved	Percent of Budget Spent
Black Hills	103%	82%	108%
PSCo	108%	98%	91%

Black Hills/Colorado Electric Utility Company LP

For their 2012-2013 Electric DSM Plan, Black Hills/Colorado Electric Utility Company LP (Black Hills Electric) achieved 82 percent of its demand savings goal and 103 percent of its Commission established energy savings goal. The company spent 108 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 2.31. While this was below the proposed goal, an MTRC score above 1 shows that the DSM programs are cost-effective. Based on its performance, Black Hills Electric earned a financial incentive of \$678,507.

Black Hills Electric’s 2012/2013 DSM Plan covered the period from July 1, 2012 through December 31, 2013, which is the first 18 months of its recently approved, multi-year DSM Plan. Historically, other utility DSM Plans cover 12 months that coincide with the calendar year. Due to the timing of Black Hills Electric filing its first DSM Plan, the company’s plans have covered a period from July to June, thus crossing over a calendar year. In Proceeding No. 12A-100E the Commission approved

Black Hills Electric's request for an 18-month plan so that the company's DSM Plan year would be coincident with a calendar year starting in 2014.³

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	\$1,127,471	\$1,466,755	9,383,179	11,455,474	1,674	1,388
Nonresidential	\$4,117,825	\$4,458,095	19,122,550	17,780,750	5,205	4,220
Special (Low-Income/ School Energy Education)	\$1,090,418	\$944,668	2,429,779	2,503,825	1,323	1,138
Total	\$6,335,714	\$6,869,518	30,935,509	31,740,049	8,202	6,747

Public Service Company of Colorado

In 2013, Public Service achieved 108 percent of its energy savings goal and 98 percent of its demand savings goal. Public Service spent 91 percent of its approved budget. The company proposed an MRTC score of 2.54 in its plan and achieved an MTRC score of 2.30. Based on its performance, Public Service earned a financial incentive of \$16,695,245 on an investment of just over \$75 million.

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	\$43,716,461	\$39,678,530	222,094,428	220,305,292	38,682	38,569
Residential	\$29,037,611	\$27,356,764	105,463,521	137,938,824	42,337	37,854
Low Income	\$3,085,129	\$2,845,437	10,226,160	7,508,561	1,168	948
Indirect	\$7,162,000	\$5,450,508	17,121,642	18,477,003	684	3,670
Total	\$83,001,201	\$75,331,240	354,905,751	384,229,680	82,871	81,040

³ Pursuant to PUC Decision No. R12-0900 in Proceeding No. 12A-100E.

The following table shows the MTRC score for each program in Public Service’s 2013 DSM portfolio.

Market Segment	Planned Benefit to Cost Ratio	Actual Benefit to Cost Ratio
Business	2.27	2.06
Residential	4.19	3.65
Low Income	1.71	1.32
Average	2.54	2.30

GAS DSM PERFORMANCE

Overall Results for 2013

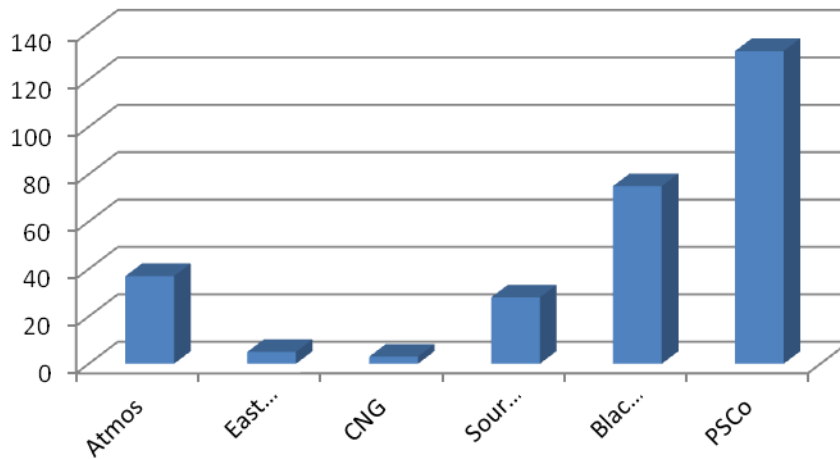
Six IOUs administer gas DSM programs pursuant to § 40-3.2-103, C.R.S. Most of the IOUs continued to face challenges in reaching their savings goals in 2013. Despite these challenges, we note that consistent with the intent of the statute, utility investments in gas DSM can help customers reduce their energy bills.

Led by the strong performance in its Business program, Public Service is the exception to that trend. Public Service’s Business program achieved 125 percent of its goal, which the company attributes to a growing state economy that resulted in increased participation in its new construction and building recommissioning DSM measures. Savings in the company’s residential program, which also met its goals, appears to have been driven by a growing state economy as well. Public Service attributes the success of its Residential program to DSM measures that track a growing economy such as Energy Star New Homes as well as more capital intensive measures such as Home Performance with Energy Star or replacement of water heaters.

Combined, the six utilities spent \$16.5 million and saved 744,020 therms of natural gas, which was 47 percent of their combined energy goals. They spent an average of 62 percent of their Commission approved budgets. As the tables below show, only Public Service exceeded its 2013 savings goal. In past years Colorado’s investor-owned gas utilities have attributed low customer participation rates to a combination of factors including low natural gas prices, warmer temperatures (especially in key heating

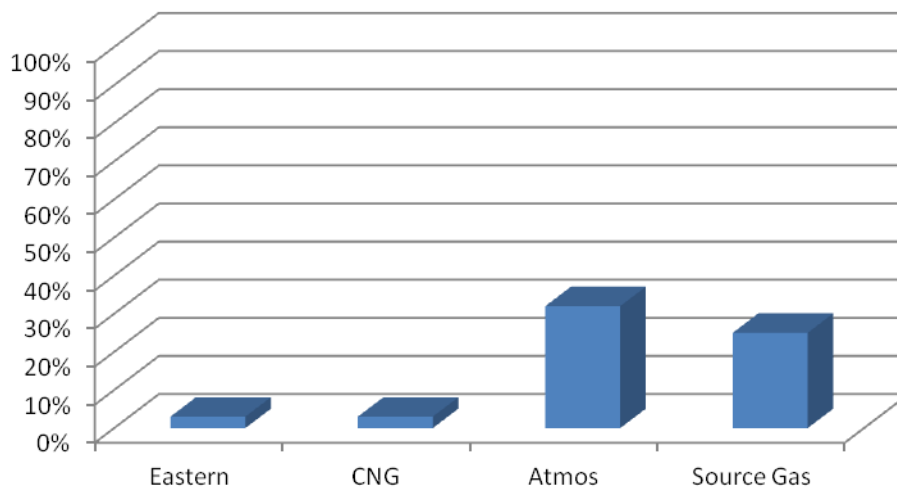
months), and low customer awareness of gas DSM measures and rebates. Overall, each \$1 invested in gas DSM resulted in \$2.68 in benefits to customers.

Percent of Gas DSM Energy Savings Goal by Utility in 2013



As indicated in their respective annual reports, the four natural gas only Local Distribution Companies (LDCs) continue to face challenges in realizing participation in their DSM programs.

Percent of Customer Participation Goal for Gas Only LDCs in 2013



Atmos Energy Corporation

Atmos Energy Corporation’s (Atmos Energy) 2013 DSM Plan fell short of its Commission approved goal. Atmos Energy reports that savings from the low-income weatherization measures and

high-efficiency furnace rebates drove overall portfolio performance. Atmos Energy's overall spending in 2013 came in at 67 percent of its approved budget. Atmos did not earn a financial incentive in 2013.

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
Residential Energy Audit	\$140,328	\$41,758	16,730	3,848	1.07	0.67
Efficient Rebate Program	\$341,073	\$140,772	116,750	28,115	2.10	1.33
Income Qualified Program/Fuel Conversion	\$251,096	\$305,613	30,360	28,917	1.38	1.17
TOTAL	\$732,497	\$488,143	163,840	60,880	2.64	1.17

Black Hills/Colorado Gas Utility Company LP

Black Hills/Colorado Gas Utility Company LP (Black Hills Gas) achieved 75 percent of its Commission approved savings goal. In 2013, the Nonresidential Program experienced low participation. In response to the low participation rates, Black Hills Gas reports that it has increased marketing efforts and anticipates higher levels of customer participation and savings in 2014. Black Hills Gas did not earn a financial incentive in 2013.

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	\$855,900	\$805,219	20,806	13,277	1.26	
Non-Residential	\$217,400	\$70,491	5,980	452	2.58	
Special (Low- Income/School Energy Education)	\$129,000	\$130,519	3,287	8,930	3.77/1.09	
Training, Marketing and Administration	\$234,600	\$387,826				
TOTAL	\$1,436,900	\$1,392,056	30,073	22,659		1.10

Colorado Natural Gas, Inc.

Colorado Natural Gas, Inc. (CNG) reports that it reached just 3 percent of its energy savings goal for 2013. The company attributes lower than expected participation to the current, low cost of natural gas, which it suggests makes customers less motivated to conserve. CNG made changes to its website and streamlined other processes in an effort to increase participation. CNG did not earn a financial incentive for 2013.

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
Residential Energy Audit	\$11,290	\$12,501	1,440	4,159	1.01	.07
Efficient Rebate Program	\$87,615	\$44,174	102,150	119	1.30	.26
Low-Income Kits	\$3,557	\$15,850	882	1,661	1.75	.78
Low-Income Fuel Conversion	\$30,968	\$16,005	0	2,379	N/A	N/A
Energy Efficiency Kits	\$4,715	\$0	3,980	0	3.56	N/A
Custom Energy Efficiency Prog.	\$74,650	\$0	10,800	0	1.21	N/A
TOTAL	212,795	\$88,530	119,252	8,318	5.82	1.90

The Eastern Division of Colorado Natural Gas

The Eastern Division of CNG (ECU), operating under the ECU DSM Plan in 2013, hit less than 1 percent of its energy savings goal. For the CNG 2013 Plan Year and the ECU 2013 Plan year

participation was lower than planned despite reporting aggressive marketing campaigns. ECU did not earn a financial incentive in 2013.

Eastern Colorado Utility 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 Program	\$5,088	\$515	540	-	1.05	N/A-
Efficient Rebate Program	\$7,423	\$1,819	2,590	244	1.72	0.80
Low-Income Kits	\$10,386	\$653	1,780	-	1.63 ⁴	N/A
Low-Income Fuel Conversion	\$4,164	\$659	-	-	N/A	N/A
TOTAL	\$27,061	\$3,645	4,910	244	6.02	0.24

Public Service Company of Colorado

Public Service achieved 132 percent of its Commission approved goal for natural gas savings in 2013. Public Service’s Business program achieved 125 percent of its goal, which the company attributes to a growing state economy that resulted in increased participation in its new construction and building recommissioning DSM measures. Savings in the company’s residential program, which also met its goals, appears to have been driven by a growing state economy as well. Public Service attributes the success of its Residential program to DSM measures that are more likely to track a growing economy such as Energy Star New Homes as well as more capital intensive measures such as Home Performance with Energy Star or replacement of water heaters..

⁴ These utilities have fuel conversion programs under these categories. Calculating the cost effectiveness of fuel conversions is problematic, from a DSM perspective, since it is increasing the use of natural gas, yet, is decreasing the use of another fuel (propane in this case). These MTRC values appear so high because they include the high cost of propane in the calculation.

Public Service earned a financial incentive of \$3,410,784 for its gas DSM programs in 2013.

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	\$1,506,725	\$1,414,936	98,865	119,322	2.57	1.87
Residential	\$6,049,007	\$6,315,147	250,289	269,047	1.39	1.82
Low-Income	\$3,742,068	\$4,437,329	59,293	112,092	1.39	1.71
Indirect	\$1,986,561	\$1,475,723	23,758	70,115		
TOTAL	\$13,284,361	\$13,643,136	432,205	570,575	1.47	1.73

SourceGas Distribution LLC

SourceGas Distribution LLC (SourceGas) did not meet its Commission approved savings goal. However, the single-family component of its Income Qualified Program exceeded participation goals by 192 percent. As for its other programs, SourceGas reported that it felt confident that its marketing efforts are gaining traction and that participation and savings in 2014 will be improved over 2013. Additionally, SourceGas cited its collaboration with other natural gas utilities as continuing to be a successful and effective approach. SourceGas did not earn a financial incentive for its gas DSM programs in 2013.

SourceGas Distribution LLC 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
Residential Energy Audit	\$57,798	\$63,786	6,860	5,919	1.11	0.63
Efficient Rebate Program	\$171,692	\$114,914	70,480	34,136	1.91	1.26
Income Qualified	\$184,093	\$152,591	77,250	25,382	2.86	1.47
Energy Efficiency Kits	\$25,372	\$0	22,590	0	5.23	N/A
Custom Program	\$356,366	\$73,188	126,100	20,066	1.57	2.35
TOTAL	\$795,321	\$404,479	303,280	85,503	2.64	1.46