ENERGY-EFFICIENCY PROGRAMS

Utah Energy-Efficiency Results 2017

The Company's 2017 Commission-approved energy-efficiency programs and measures were similar to those in 2016, but also included new measures, changes to qualifying equipment, and changes to rebate levels. In 2017, the Company introduced new rebate-qualifying efficiency measures for existing and new homes, multi-family properties, low-income customers and commercial customers. In addition to the new measures, the Company continued to refine the comparison characteristics of the ThermWise® Energy Comparison Report and delivered it to over 230,000 customers in 2017.

ThermWise® results for 2017 were strong with participation rates in the Builder and Business programs surpassing 100% of original projections. The Appliance program, Home Energy Plan, Weatherization, Low Income Efficiency and Energy Comparison Report programs finished the year short of expected participation.

Spending for the 2017 program year totaled $22.4 million or 89% of the $25.1 million Commission-approved ThermWise® budget. Actual expenditures in the Appliance, Home Energy Plan, Weatherization, Energy Comparison Report, and the Low-Income Efficiency programs were lower than budgeted. The market transformation expenditures were also lower than expected in 2017 (92% of budget) primarily because lower-than-projected marketing expenses and the Company's ongoing efforts to secure event and promotional contracts at low rates. In total, rebate dollars accounted for nearly 79% of total ThermWise® spending in 2017 (72% in 2017 budget) and resulted in annual natural gas savings of more than 892,000 Dth. Actual natural gas savings were 84% of the amount projected in the Company's 2017 budget filing.

Utah ThermWise® Appliance Rebates

The Company continued this program in 2017 with the elimination of clothes washers as rebate eligible measures. When the Company introduced the ThermWise® programs in 2007, the minimum MEF for rebate-eligible clothes washers was set at 1.72. Since that time, minimum washer performance standards have continued to increase. In order to keep up with the changing standards, the Company proposed changes to rebate-qualifying clothes washer MEF's in 2010 (Docket No. 09-057-15), 2011 (Docket No. 10-057-15), and 2017 (Docket No. 15-057-16). In the 2016 ThermWise® programs, the lowest rebate-eligible washer was established as having a 2.74 IMEF rating. In reviewing market research and preparing the 2017 budget filing, the Company found that the efficiency baseline for clothes washers had again moved to a higher level. As a result of the baseline changes and shrinking natural gas savings, the Company had a belief that the clothes washer market has been transformed and therefore proposed to eliminate the 2.74 clothes washer as a rebate-eligible measure in 2018.

CLEAResult, Inc., a longtime contractor for the ThermWise Appliance Program, was not re-contracted for design, outreach, marketing, and technical assistance. Instead, the Company performed outreach and marketing work in-house with Nexant contracted to provide technical assistance in 2017. Blackhawk Engagement Solutions performed rebate processing work for this program in 2017.

Utah ThermWise® Builder Rebates

In 2016, the Utah State Legislature passed (and the Governor signed into law) House Bill 316. The bill, which amended the Utah State Construction Codes, included a provision to increase the State's energy code to the 2016 version of the International Energy Conservation Code (IECC). As a result of the IECC code change and the increased minimum efficiency requirements, the Company eliminated the ENERGY STAR® 3.0, High Performance, and 10% above code rebate measures for both single and multifamily customer segments in 2017. To replace those measures, the Company implemented new whole-home incentive tiers based on exceeding the code-required Home Energy Rating Scores (HERS) of 65 for homes in climate zone 3, 69 in climate zone 5, and 68 in climate zone 6. The Company established 2017 whole-home incentive tiers for single family homes at $100 for a HERS score of 62 or lower, $200 for a HERS score of 55 or lower, and $300 for a HERS score of 48 or lower. For multifamily homes, the Company established whole-home incentives of $50 for a HERS score of 62 or lower, $100 for a HERS score of 55 or lower, and $150 for a HERS score of 48 or lower.

Also as a result of the IECC code changes, the Company replaced the ENERGY STAR® 3.0 ($300 single-family / $200 multifamily) incentives with a smaller bonus incentive ($50 single-family / $25 multifamily) for HERS rated homes which receive the additional ENERGY STAR® rating. The Company also changed the 2 x 6 rebate requirement from a minimum of R-20 in 2016 to R-23 in 2017. The Company additionally reduced the rebate amount in the 2 x 6 measure to $150 for single-family homes and eliminated this rebate for multifamily homes in 2017.

CLEAResult, Inc., a longtime contractor for the ThermWise Builder Program, was not re-contracted for design, outreach, marketing, and technical assistance. Instead, the Company performed outreach and marketing work in-house with Nexant contracted to provide technical assistance in 2017. Blackhawk Engagement Solutions performed rebate processing work for this program in 2017.

Utah ThermWise® Business Rebates

The Company continued this program in 2017 with the following changes: 1) introduction of demand control ventilation units to the rebate measure mix; 2) elimination of new construction attic and wall insulation as rebate-eligible measures; 3) elimination of the high efficiency residential clothes washer for business measure for the reasons outlined in the Appliance Program discussion; 4) reduced the incentive for retrofit attic insulation (from $0.16 to $0.08 per square foot) and Tiers 2 and 3 boiler tune ups (Tier 2 from up to $300 to $150 per unit / Tier 3 from $0.20 per kBtu to $250 per unit); 5) changed the smart thermostat rebate from a dollar-per-unit structure to a rebate based on the size (square footage) of a facility; 6) removed the maximum sizing limit on condensing water heaters; and 7) merged the Business Custom Program measures into the prescriptive Business Program in 2017.

Since 2008, the Business Custom Program had existed as a stand-alone offering to Utah GS commercial customers seeking to reduce natural gas usage. The Company found over nearly nine years that many projects which began in the custom program ultimately resulted in participation and rebates in the prescriptive business program. As a result, natural gas savings

and the dollars expended to generate those savings were misattributed. The merger of these two programs into a single business offering served to eliminate the misattribution problem as well as reduce the overall costs required to administer two separate programs.

Nexant assisted with design, outreach, marketing, and technical assistance for this program. Blackhawk Engagement Solutions performed rebate processing work for this program in 2017.

Utah ThermWise® Weatherization Rebates

From the beginning of the ThermWise® Programs, weatherization measures have been the leader in terms of customer interest and participation. The Company has been pleased with the historical natural gas savings achieved by participating customers. Over the previous few years however, the Company recognized a trend of decreasing weatherization participation. During meetings, weatherization contractors have cited multiple reasons for this decline. Some of those reasons include increased marketing and collection costs associated with reaching the remaining rebate-eligible retrofit customers. As a result of these costs, contractors began to migrate to the more lucrative, less risky market segments.

In an effort to reverse these trends, the Company introduced a ThermWise® Direct-Install Weatherization Pilot Program in 2017. The pilot program was designed to, over a period of three years, reach communities and customers with historically low participation in weatherization measures. The Company's pilot program was also designed to encourage contractors to re-engage in the Weatherization Program. As part of the pilot program, the Company began to work closely with Rocky Mountain Power (RMP) on developing a combined direct-install weatherization incentives for the targeted communities and customers. The direct-install incentives were designed to not exceed the existing Company and RMP combined rebate levels for natural gas heated and electrically cooled homes. The Company also payed the rebate directly to the contractors, rather than the customer, after the work was performed.

The Company began this pilot program by contracting directly with qualified weatherization contractors already in the market. The Company selected contractors through a competitive request for proposal process. Contractors were selected based on skills, experience, past performance, and pricing. The Company trained and educated contractors on correct marketing practices, program guidelines, and install requirements. Ongoing trainings were and will continue to be provided through the pilot period by the Company to ensure compliance with program guidelines.

After the selections of contractors and completion of training, the Company began to direct contractors to communities with lower historical participation and higher levels of potential energy savings. The Company used historical participation data, the Energy Comparison Report, and the Home Energy Plan to identify communities with high savings potential. The Company provided the zip codes/street data to contractors and guided them to neighborhoods which could most benefit from weatherization measures. Homes previously insulated through the ThermWise® Programs are not eligible to participate in the direct install pilot. The Company's energy efficiency staff performs quality control/assurance (QA/QC) and documents pilot program compliance, once direct install participating homes were completed.

At the end of the pilot period, the Company will use the data generated by the program to assess the combination of weatherization measures that are most effective in producing energy savings. The Company will keep the Advisory Group informed on the progress of the direct-install pilot program throughout the three year period.

The Company continued the remaining aspects of the Weatherization Program in 2017 with no significant changes. This program continued to be available to existing residential customers in the Company's Utah service territory.

The Company performed outreach and marketing work for this program and continued to contract with Nexant for technical assistance related work in 2017. Blackhawk Engagement Solutions performed rebate processing work for this program in 2017.

Utah ThermWise® Home Energy Plan

The Company continued this program in 2017 with no major changes.

Utah Low-Income Efficiency Program

The Company continued funding the Low-Income Efficiency Program in 2017 at $500,000 per year from the energy-efficiency budget ($750,000 total Company funding). The Company disbursed $250,000 every six months, with the disbursements occurring in January and July.

Utah ThermWise® Energy Comparison Report

The ThermWise® Energy Comparison Report allows customers to compare their natural gas usage with neighboring homes which are similarly sized and situated. Additionally, the Comparison Report encourages customers to employ energy efficiency measures and behaviors. The Company developed the Comparison Report and first offered it to customers as part of the Market Transformation Initiative in November 2011. The Company initially sent the report to a small group of customers (Group A – 8,000 customers) as a pilot program. The Company has since launched larger pilot groups in 2012 (Group B – 25,000 customers), 2013 (Group C – 100,000 customers), and 2014 (Group D – 100,000 customers). In 2017 the Company sent the report, via U.S. and electronic mail, to more than 230,000 of its customers. The Company also maintained an additional group of nearly 50,000 customers in order to determine natural gas savings achieved from delivery of the Comparison Report. With the exception of the control group, all customers were able to generate and view a copy of their Comparison Report through their online account.

A summary of the projected and actual benefit/cost (B/C) ratios for each of the 2017 ThermWise® programs is shown below.

Table 12.1 - Utah 2017 Projected & Actual B/C ratios by program and California Standard Practice Test

Program	Total Resource Cost Test		Participant Test		Utility Cost Test		Ratepayer Impact Measure Test	
	2017 Projected B/C	2017 Actual B/C	2017 Projected B/C	2017 Actual B/C	2017 Projected B/C	2017 Actual B/C	2017 Projected B/C	2017 Actual B/C
ThermWise® Appliance Program	1.26	1.51	3.07	3.85	1.66	1.72	0.86	0.83
ThermWise® Builder Program	1.13	0.80	3.09	2.02	1.03	1.20	0.66	0.71
ThermWise® Business Program	1.26	1.10	3.07	3.34	1.66	1.65	0.86	0.93
ThermWise® Weatherization Program	1.02	0.84	2.42	2.22	1.19	1.03	0.74	0.66
ThermWise® Home Energy Plan	1.27	1.55	50.29	60.80	1.25	1.53	0.73	0.78
Low-Income Efficiency Program	1.04	0.66	4.38	2.04	1.07	0.73	0.68	0.51
Energy Comparison Report	1.45	1.74	4.92	5.10	1.45	1.74	0.76	0.82
Market Transformation	0.00	0.00	N/A	N/A	0.00	0.00	0.00	0.00
TOTALS	**1.12**	**1.02**	**3.10**	**2.89**	**1.31**	**1.32**	**0.78**	**0.76**

Actual benefit/cost results for 2017 mirrored corresponding budget projections. The ThermWise® programs as a whole passed the Total Resource, Participant, and Utility Cost tests. The ThermWise® programs as a whole passed both the Participant and Utility Cost tests. Actual cost-effectiveness results were at or near projections lower than projected primarily due to higher than expected participation in lower-savings energy-efficiency measures and lower than forecasted avoided natural gas costs than were used in cost-effectiveness modeling for the 2017 ThermWise budget filing (Docket No. 16-057-15).

Customer participation in the ThermWise® programs remained high in 2017 (76,049 actual rebates paid) finishing the year at 109% of the Company's original 2017 estimate (69,795). Actual participation surpassed estimated participation in the Appliance (25,741) and Builder (22,919) and programs. Those programs also had the highest total number of participants in 2017.

The DSM Advisory Group continued to meet to discuss the Company's energy-efficiency initiative. Three meetings were held on the following dates: March 29, 2017, August 24, 2017 and September 27, 2017.

Energy Efficiency Effects on Peak Day & Demand Response

In Docket No. 13-057-04 the Commission ordered the Company to discuss the "…effect of energy efficiency programs on peak demand and the need for new infrastructure and how energy efficiency programs could reduce or offset the need for future capital projects" in both a DSM Advisory Group and IRP public input meeting. (Report and Order dated October 22, 2013, Docket No. 13-057-04.) The Company addressed this topic at the DSM Advisory Group meeting held March 19, 2015 and again at the IRP meeting held on April 30, 2015. In both meetings the attendees discussed the ThermWise programs, the fact that they are designed to reduce over-all energy consumption, and that they do not, necessarily, impact peak-day usage.

In Docket No. 14-057-15 the Commission ordered the Company to "…continue its discussion on peak-day issues in the DSM Advisory Group and in a public input meeting associated with the 2015 IRP." (Report and Order dated October 8, 2015, Docket No. 14-057-15.) The Company continued the discussion of the effects of energy-efficiency on peak day at the Advisory Group meeting held March 24, 2015 and again at the IRP meeting held on March 25, 2015.

In Docket No. 15-057-07 the Commission ordered the Company to "…address Heat Pumps and the impacts of EE programs on peak demand" in the 2016 IRP. The Company addressed Heat Pumps and continued the discussion of the effects of energy-efficiency on peak day in Section 3 pages 9 through 16 of the 2016 IRP. Additionally, the Company has continued to study this topic since that time.

The Company also agreed in its 2017 Energy Efficiency budget filing (Letter dated December 7, 2016 in Docket No. 16-057-15) to "…begin development of an analytical framework for evaluating efficiency measure benefits and costs unrelated to natural gas savings" in 2017. The Company, in collaboration with Nexant, began a study of water heaters and development of an analytical framework in June of 2017. The Company presented the results of its study and the resulting analytical framework to representatives of the Division of Public Utilities and the Office of Consumer Services at a meeting held October 10, 2017. The study, which relied on the Company's system data from 2012-2016 paired with actual five-minute usage data from 7,000 electric storage water heaters taken over a three-month period, showed water heaters (both tankless and storage) peaking roughly 2 to 3 hours earlier than the hours when peaking risk for the Company's system is highest. The final report and analytical framework were published by Nexant on November 21, 2017.

In Docket No. 16-057-08 the Commission ordered the Company and the DSM Advisory Group to collaborate and "…to explore whether opportunities exist for one or more DSM pilot programs that might alleviate peak demand." The Company began to study demand response natural gas programs in the spring of 2017. The methodology used by the Company in this study was to identify and contact natural gas utilities who might have demand response programs, search utility websites, review industry conference papers, contact large demand response vendors, and contact national energy efficiency organizations.

The Company's study found the following potential demand response options: 1) Interruptible rates; 2) Fuel-switching; 3) Time of use rates; and 4) Direct load control. Of the twenty-two natural gas utilities surveyed by the Company, eighteen were determined to have interruptible rates for use during periods of high demand, five had fuel switching incentives for use in extreme weather conditions, and none had implemented or had plans for time of use rates or direct load control programs in the future. Additionally, the four demand response vendors contacted by the Company indicated that they did not have any natural gas-related direct load control programs.

The Company presented the results of this study to the Advisory Group at a meeting held on August 24, 2017. At that meeting, a member of the Advisory Group suggested that SoCalGas had implemented a direct load control program, through the smart thermostat manufacturer Ecobee, during the winter heating season of 2015-2016. The Company contacted Ecobee to

discuss the program on September 26, 2017. Through this discussion, the Company was able to determine that the size of the program was small in nature (limited to approximately 500 participants) and that there had been no weather events during that heating season which required adjusting the temperature in participant homes.

The Company subsequently updated the Advisory Group of these findings at a meeting held on September 27, 2017. The Company continues to monitor this program and expects that an evaluation of the second-year (2016-2017) program performance will be published in late 2018. The Company will continue to update the Advisory Group as additional information becomes available.

Wyoming Energy-Efficiency Results for 2017

The Company filed for approval (Docket No. 30010-158-GT-16) of the eighth year of Wyoming ThermWise® programs on October 27, 2016. The eighth-year Wyoming programs were modified to closely align with the 2017 Utah ThermWise® programs in an effort to achieve cost savings for both states while also taking current energy-efficiency and equipment standards into account. The Wyoming Public Service Commission approved the eighth-year programs (February 7, 2017 Order) and ordered the changes effective January 1, 2017.

The Wyoming energy-efficiency programs (Appliance, Builder, Business, Home Energy Plan, and Weatherization) have seen good participation and interest from customers since the Company launched the programs on July 1, 2009. In the eighth full program year (January through December 2017) the Wyoming ThermWise® programs had 525 participants or 1.9% of the Company's December 31, 2017 Wyoming residential GS customer base.

Utah Energy-Efficiency Plan for 2018

Based on work with the DSM Advisory Group, Utah-based trade allies, program administrators, and other energy-efficiency stakeholders, the Company proposed and the Utah Public Service Commission approved, the continuation of seven energy-efficiency programs for 2018 as well as the ThermWise® Market Transformation initiative. The ThermWise® energy-efficiency programs continuing in 2018 are: 1) the ThermWise® Appliance Rebates Program; 2) the ThermWise® Builder Rebates Program; 3) the ThermWise® Business Rebates Program; 4) the ThermWise® Weatherization Rebates Program; 5) the ThermWise® Home Energy Plan Program; 6) funding of $500,000 for the Low-Income Efficiency Program administered by the Utah Department of Workforce Services; and 7) the ThermWise® Energy Comparison Report.

Utah ThermWise® Appliance Rebates

The Company will continue this program in 2018 with the addition of boiler reset controls and combined space and water heaters to the list of rebate-eligible equipment. A boiler outside air reset control is an add-on unit used to automatically reduce the boiler supply water temperature at warmer outside air temperatures. This process helps to reduce boiler natural gas consumption. Boiler outside air reset controls are code-required in new homes with boilers. Therefore, the Company will add this equipment as a rebate-eligible measure only in the retrofit appliance program.

Combined space and water heating systems provide domestic water and space heating from a single heat source. Qualifying devices use a tankless water heater or boiler and a furnace to provide space heat and are packaged together in a single unit. These devices require less mechanical equipment space and are well suited for small single family and multifamily applications. Eligible units will utilize condensing technology, which is more efficient than code required water and space heating equipment.

The Company will continue the Appliance Program in 2018 with the following additional changes: 1) eliminate the tankless tier 1 water heater as a rebate-eligible measure in an effort to align with ENERGY STAR® specifications of > 90% energy factor (EF); 2) reduce the smart thermostat rebate to $50 per device; 3) reduce the rebate amount by $50 for the 95% annual fuel utilization efficiency (AFUE) furnaces, 95% AFUE furnaces with an electrically commutated motor (ECM), and the 98% AFUE furnace with ECM. The changes in rebate amounts will align the Company's rebate offerings with expected 2018 market conditions.

The Company will perform outreach and marketing work in-house in 2018. Nexant will provide technical assistance and Blackhawk Engagement Solutions will continue to perform rebate processing work for this program in 2018.

Utah ThermWise® Builder Rebates

The Company will continue this program in 2018 with the addition of a new construction multifamily high rise rebate. This measure incentivizes builders, through a $25 per-unit rebate, to seek the ENERGY STAR® Multifamily High Rise (MFHR) designation for buildings of four stories or greater. Buildings that score a 75 or above (on a 1-100 scale), as determined through ENERGY STAR® Portfolio Manager, are eligible to receive the ENERGY STAR® MFHR designation. New construction commercial facilities such as motels/hotels, nursing homes, assisted-living facilities, and dormitories do not qualify for the ENERGY STAR® MFHR designation and, therefore, would be ineligible to participate in this rebate measure. The Company anticipates several qualifying multifamily high rise projects in the near future and believes the time is right to move these types of residential developments further down the path of energy efficiency.

The Company will also add combined space and water heaters as a rebate-eligible measure, implement the $50 reduction to specific furnaces and the smart thermostat measure, and eliminate the tier 1 tankless water heater as a rebate-eligible measure. These changes will align the Company's rebate offerings with expected 2018 market conditions.

The Company will perform outreach and marketing work in-house in 2018. Nexant will provide technical assistance and Blackhawk Engagement Solutions will continue to perform rebate processing work for this program in 2018.

Utah ThermWise® Business Rebates

The Company will continue this program in 2018 with the following changes: 1) introduce pipe insulation to the current rebate measure mix; 2) eliminate the tankless tier 1 water

heater as a rebate-eligible measure; and 3) reduce the rebate amounts for the 95% AFUE, 95% AFUE with ECM, and 98% AFUE furnace with ECM by $50 in 2018. The rebate amount for smart thermostats was changed in the 2017 Business Program from a fixed amount per device to a rebate based on the square footage serviced by the device. As such, the Company believes the current rebate structure is in harmony with current market conditions and, therefore, will make no changes to the Business Program smart thermostat measure for 2018.

Nexant will continue to assist with design, outreach, marketing, and technical assistance for this program. Blackhawk Engagement Solutions will perform rebate processing work for this program in 2018.

Utah ThermWise® Weatherization Rebates

In January 2017, the Company introduced the ThermWise Direct-Install Weatherization Pilot Program. This program was designed to reach communities and customers with historically low participation in weatherization measures. The Company published a request for proposal (RFP), selected two contractors to perform the work, and began marketing efforts in June of 2017. Direct-install work commenced in July, 2017. The Company is pleased with the results of this new initiative to date and has kept the Advisory Group informed as to the early results. Participating contractors have also provided positive feedback on the direct-install pilot and have additionally made suggestions intended to help augment natural gas savings. One such suggestion was to establish a rebate for the installation of pipe insulation, on the water supply pipes, in the unconditioned space of homes. After performing an evaluation of potential savings, the Company proposes to add a pipe insulation rebate at $0.50 per linear foot in 2018. The Company additionally recommends that participation in this measure be limited to the Direct-Install pilot, where quality installation can be ensured through the Company's already-established quality assurance/quality control (QA/QC) process.

The Company will also launch a three year pilot initiative, through the 2018 Weatherization Program, designed to achieve natural gas savings in both low-income and market rate multifamily properties. This initiative, called the Pilot Multifamily Program, aims to entice multifamily property owners to implement comprehensive energy efficiency retrofits and replace energy systems across the entire property instead of waiting to replace equipment at the point of failure.

The Pilot Multifamily Program will be administered by the International Center for Appropriate and Sustainable Technology (ICAST). ICAST seeks to achieve participation by educating multifamily property owners on the ancillary benefits of retrofits including increase in value of their property, increase in net operating income (NOI), access to Fannie, Freddie and FHA green lending initiatives, tax credits and deduction, access to low-cost financing and other incentives. ICAST specializes in developing and administering a one-stop-shop program solely for multifamily customers who are typically underserved and considered hard-to-reach.

ICAST will promote the installation of current rebate measures to both low-income and market rate properties (≈50% low income / 50% market rate) and target first year natural gas savings of 12,500 decatherms. ICAST's administrative fee will be paid by the Company based on natural gas savings achieved. In other words, ICAST will be paid only if and when natural gas savings are realized. In addition to funding, the Company may assist in making introductions

between ICAST and Utah's other multifamily stakeholders, developing a marketing plan, and providing marketing collateral.

The Company has modeled this pilot initiative for cost-effectiveness and determined Total Resource Cost (TRC) and Utility Cost Test (UCT) results to be 1.4 for the 2018 program year. The Company will keep the Advisory Group informed as to the progress of the Pilot Multifamily Program and file annual updated budgets, included in the annual ThermWise budget filing, with the Commission over the remaining life of the pilot period.

The Company will perform outreach and marketing work for this program and continue to contract with Nexant for technical assistance related work in 2018. Blackhawk Engagement Solutions will perform rebate processing work for this program in 2018.

Utah ThermWise® Home Energy Plan

The ThermWise® Home Energy Plan program is offered and administered by the Company with periodic consulting and assistance from Nexant. This program includes two primary components: an in-home energy plan performed by trained and experienced Company auditors and a "do-it-yourself" mail-in plan with on-line data input availability. This program will continue to be available to customers in the Company's Utah service territory.

Utah Low-Income Efficiency Program

The Company will continue funding the Low-Income Efficiency Program in 2018 at $500,000 per year from the energy-efficiency budget ($750,000 total Company funding). The Company will disburse $250,000 every six months, with the disbursements occurring in January and July.

The Company will also eliminate the tier 1 tankless water heater in 2018 for the reasons outlined in the Appliance Program discussion. Blackhawk Engagement Solutions will perform rebate processing work for this program in 2018.

Utah ThermWise® Energy Comparison Report

The ThermWise® Energy Comparison Report allows customers to compare their natural gas usage with neighboring homes that are similarly sized and situated. The Comparison Report encourages customers to employ energy efficiency measures and behaviors. The Company developed the Comparison Report and first offered it to customers in November 2011.

The Company initially sent the report to a small group of customers (Group A – 8,000 customers) as a pilot program. The Company has since launched larger pilot groups in 2012 (Group B – 25,000), 2013 (Group C – 100,000), 2014 (Group D – 100,000), and in 2017 (Group F – 50,000). Currently the Company sends the report, via U.S. and electronic mail, to more than 255,000 of its customers. The Company maintains an additional group of nearly 100,000 customers in order to determine natural gas savings achieved from delivery of the Comparison Report. With the exception of the control group, all customers are able to generate and view a copy of their Comparison Report through their online account at www.dominionenergy.com. As of the end of September 2017, the Comparison Report had been generated over 275,000 times online by nearly 110,000 unique customers.

The Company will increase delivery of the Comparison Report to 285,000 in 2018. The Company realizes this total number by reintroducing Group B in 2017, pausing Group C beginning September 2017, and adding Group F which will be delivered to 50,000 additional customers in 2018. Data shows that customers not only change behaviors to save natural gas as a result of the Comparison Report, but they are also more likely to participate in other ThermWise® Programs if they have received the report. The Company conducted an analysis in 2014 that showed, when contrasted against a control group of non-recipients, customers who had received their Comparison Report were more likely to participate in a ThermWise® rebates and/or request a Home Energy Plan. The Company proposes to continue to target the Comparison Report to customers with higher usage relative to conditioned square footage in 2018.

While program participants are expected to increase slightly from 2017 levels, natural gas savings are projected to increase by 34% in 2018. The Company expects savings to increase because of the projected expansion of the ECR in 2018 and because of savings persistence. The Company conducted a study in 2017 that focused analysis on all current recipients of the report (Groups B, C, and D). The study showed weather-normalized usage reductions per participant of 1.22 Dth/year. As a result, the Company updated the natural gas savings number from .91 Dth/year in the 2017 Model, to 1.22 Dth/year in the 2018 Model.

A summary of the cost-effectiveness used in the energy-efficiency model for each ThermWise® program as provided with the 2018 budget filing is shown in Table 12.2 below.

Table 12.2 - Utah 2018 projected NPV & BC ratios by program and California Standard Practice Test

2018 Projections	**Total Resource Cost**		**Participant Test**		**Utility Cost Test**		**Ratepayer Impact Measure Test**	
	NPV*	**B/C**	**NPV***	**B/C**	**NPV***	**B/C**	**NPV***	**B/C**
ThermWise® Appliance Program	$1.03	1.15	$15.14	3.01	$2.65	1.49	-$2.15	0.79
ThermWise® Builder Program	$0.61	1.14	$9.99	3.24	$0.21	1.05	-$2.56	0.65
ThermWise® Business Program	$0.91	1.16	$12.55	3.21	$3.10	1.87	$0.08	1.01
ThermWise® Weatherization Program	$0.93	1.11	$15.77	2.69	$1.65	1.22	-$3.21	0.74
ThermWise® Home Energy Plan Program	$0.23	1.34	$2.59	50.64	$0.22	1.32	-$0.33	0.73
Low-Income Efficiency Program	$0.15	1.18	$1.81	5.40	$0.18	1.21	-$0.40	0.71
ThermWise® Energy Comparison Report	$0.44	1.74	$2.41	5.63	$0.44	1.74	-$0.22	0.83
Market Transformation Initiative	-$1.32	0.00	$0.00	N/A	-$1.32	0.00	-$1.32	0.00
TOTALS	$2.99	1.10	$60.26	3.15	$7.12	1.29	-$10.11	0.76

*Shown in millions

Table 12.3 shows the Utah cost-effectiveness results using the projections included in the budget filing updated to include the gas cost forward curve used in the SENDOUT model.

Table 12.3 - Utah 2018 NPV & B/C ratios using gas cost forward curve from SENDOUT model

2018 IRP Forward Curve	Total Resource Cost		Participant Test		Utility Cost Test		Ratepayer Impact Measure Test	
	NPV*	B/C	NPV*	B/C	NPV*	B/C	NPV*	B/C
ThermWise® Appliance Program	$1.97	1.28	$17.64	3.34	$3.59	1.66	-$1.87	0.83
ThermWise® Builder Program	$1.27	1.30	$11.58	3.59	$0.88	1.19	-$2.31	0.70
ThermWise® Business Program	$1.82	1.32	$14.98	3.63	$4.01	2.12	$0.52	1.07
ThermWise® Weatherization Program	$3.05	1.37	$19.86	3.13	$3.76	1.50	-$2.19	0.84
ThermWise® Home Energy Plan Program	$0.23	1.34	$2.80	54.58	$0.22	1.32	-$0.38	0.71
Low-Income Efficiency Program	$0.30	1.36	$2.11	6.15	$0.32	1.39	-$0.35	0.77
ThermWise® Energy Comparison Report	$0.21	1.34	$2.41	5.63	$0.21	1.34	-$0.45	0.64
Market Transformation Initiative	-$1.32	0.00	$0.00	N/A	-$1.32	0.00	-$1.32	0.00
TOTALS	$7.53	1.26	$71.39	3.55	$11.66	1.48	-$8.34	0.81

*Shown in millions

Wyoming Energy-Efficiency Plan for 2018

The Company expects ninth-year participation in the portfolio of Wyoming ThermWise® programs to reach 728 customers which would be an increase of less than 1% from the 2017 budget participation levels.

SENDOUT Model Results for 2018

The Company entered projections from the approved 2018 energy-efficiency budget into the SENDOUT model in response to the Utah Commission's request. Data entries for the 2018 energy-efficiency programs included participants and associated deemed lifetime Dth savings per program measure. The Company also incorporated incentive (variable) and administration (fixed) costs for each program measure into the SENDOUT model.

The SENDOUT model used the projected 2018 participation and administration costs as the baseline for its analysis of each program. For each program, the model examined what would happen if participation reduced to 25% or increased to 150% of the 2017 projection. The model also examined different scenarios involving the escalation of annual administration costs per program. In these scenarios, administration costs per program were increased to 150% and 200% of the 2018 projection. SENDOUT then made the judgment as to whether a program should be "accepted" (100% on the included graph) or "rejected" (0% on the included graph) based on a given level of participation and administration costs. Please see Exhibit 12.1 for the SENDOUT results in a table format.

The model accepted the 2018 ThermWise® Weatherization program at 25% of 2018 projected participation if administration costs were increased to 200% of the 2018 budget projection. The model accepted the Appliance program at 50% of participation and 200% of the 2018 budget projection. The model accepted the Builder and Business programs at 75% of participation and 200% of the 2018 budget projection. The model accepted the Home Energy

Plan program and the Energy Comparison Report at 100% of participation and 100% of the 2018 budget projection.

Another way to view the results of the SENDOUT model is to analyze how much administration costs could increase and still be accepted if participation was held at 100% of the 2018 projection. In this scenario, the administration costs for the Weatherization program could increase by eight times the 2018 budget projection and still be accepted. The Appliance program could increase projected administration costs by four times and still be accepted. The Builder and Business programs could increase projected administration costs by more than two times and still be accepted.

In summary, the SENDOUT model results indicate that as a gas supply resource at the approved budget and participation levels, the 2018 energy-efficiency programs are accepted as qualifying and cost-effective resources when compared to other available resources. Furthermore, this holds true when participation rates are held constant and program administrative costs are increased.

The SENDOUT model is a comprehensive resource planning and evaluation tool. In comparison, the Company developed its Energy-Efficiency Model in-house, with the assistance of the Company's DSM Advisory Group and the Utah Commission's review. The Company uses its Energy-Efficiency Model for the sole purpose of modeling the Company's energy-efficiency programs. To this end, the Company relies on the Energy-Efficiency Model for energy-efficiency program planning purposes and more importantly energy-efficiency program cost effectiveness (based on the California Standard Practices Manual).

Using the Energy-Efficiency Model, the Company analyzed the approved 2018 energy-efficiency programs at a "break-even" benefit / cost ratio (B/C = 1.00) by holding participation (and incentive payments) constant and increasing all other costs in a linear manner. The analysis is based on projected natural gas savings of 1,145,562 Dth in 2018. This analysis resulted in a projected potential total energy-efficiency spending limit of $36.2 million per year using the Utility Cost Test. The currently-approved $24.5 million per year is well below this threshold. This analysis indicates that the maximum potential spending on energy-efficiency is directly related to the cost-effectiveness of realizing each Dth saved. Therefore, as long as the Company's energy-efficiency programs are determined cost-effective in the Energy-Efficiency Model, accepted by the SENDOUT model when compared to other available resources, and do not negatively impact company operations, energy-efficiency programs are an appropriate resource.

Avoided Costs Resulting From Energy Efficiency

The ThermWise® Cost-Effectiveness Model calculates the avoided cost of gas purchases as the sole benefit of the energy-efficiency programs. In 2017, the avoided gas cost attributable to energy-efficiency was calculated to be $30.7 million. For 2018, the avoided gas cost attributable to energy efficiency is estimated to be $36.2 million. This gas is valued at the same price that is used for purchased gas in the IRP modeling.