INTERMOUNTAIN® GAS COMPANY

Energy Efficiency

2019 Annual Report

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Energy Efficiency Annual Report

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The second year of the Intermountain Gas Company's Energy Efficiency Program (Intermountain, IGC or Company) was one of growth and progress that continued to build on the overwhelming customer response of the first year of the Energy Efficiency Program (EE Program or Program). Intermountain increased customer outreach and education efforts by both adding energy efficiency team members and diversifying outreach methods. Intermountain also commissioned the first conservation potential assessment (CPA). Increased outreach resulted in growth in customer participation in the Program, and the CPA provided the basis for Program fine-tuning and the development of future Program offerings. The portfolio was comprised of two main categories of offerings: high-efficient appliances and construction of ENERGY STAR certified homes. The high-efficient appliance rebate offering focused on three groups: Space Heating, Fireplace Inserts, and Water Heating.

In 2019, both therm savings and the total number of rebates paid to residential customers increased over the previous year. A total of 3,335 high-efficient measures were rebated to Intermountain customers, a 61% increase over the previous year. The increase in Program participation was shared across the five districts in the Company's service area. This success was largely attributed to increased outreach and education efforts achieved by incorporating energy efficiency as a portion of the job responsibilities of Energy Service Representatives (ESR) stationed throughout the service territory. Including energy efficiency in the suite of benefits the ESRs present to customers allowed Intermountain to increase energy efficiency outreach and enhance the customer connection as "one-stop-shopping" when discussing energy efficient solutions simultaneously with natural gas service options.

In June 2020, Intermountain was recognized by the U.S. Environmental Protection Agency with an ENERGY STAR Certified Homes Market Leader Award, for "outstanding commitment to energy-efficient new homes and for contributing 1,079 ENERGY STAR certified homes in 2019." Intermountain continued to build on this success, quite literally, as nine new residential home builders became ENERGY STAR certified builders and the Whole Home Rebate had one of the largest increases of all the rebates offered. Whole Home rebates increased 74% over last year, for a total of 1,079 ENERGY STAR certified homes in 2019. The greatest number of rebates were furnace rebates, with an increase of 55% over last year, while the tankless water heater rebate had a significant increase of 81%, and the 70% FE fireplace increased by 8%. Two measures underperformed when compared to last year: the tanked water heater (11% decrease in participation), and the 80% AFUE fireplace (no rebates redeemed).

While the first two years of the Program exceeded therm saving targets and had an enthusiastic response from customers, Intermountain took steps to improve the Program based on performance, customer feedback, guidance from the Stakeholder Committee and oversight from the Idaho Public Utilities Commission. To better identify therm saving opportunities and inform Program planning, the Company completed its first conservation potential assessment in mid-2019. In addition to identifying savings potential for the Program, the CPA resulted in necessary modifications to the measure inputs: therm savings, incremental costs and estimated useful life, to varying measures and by varying degrees. Intermountain used both Pre-CPA inputs and Post-CPA inputs to calculate 2019 annual therm savings and cost-effectiveness tests for this annual report. When CPA inputs were applied to estimated annual therm savings calculations, it resulted in a decrease of approximately 17%, from 466,651 therms to 389,313 therms. The CPA inputs were also applied to the Utility Cost Test. The Pre-CPA Program benefit-to-cost ratio of 1.06 changed to 0.87 Post-CPA. All individual measures and overall Program therm savings and cost-effectiveness tests are reported using both the original Program measure inputs, or Pre-CPA, and Post-CPA updates. The specific CPA updates, resulting impact on estimated therm savings and cost-effectiveness are presented by measure as well as for the overall Program.

From the start of the Program on October 1, 2017 through June 20, 2019 the Energy Efficiency Charge rider funds totaled, $1,712,654. For the same time period, program expenses were $2,810,560, 77% of these expenses were paid directly to customers in the form of rebates, resulting in an uncollected balance of $1,097,906. In August of 2019, in order to continue to allow all interested customers to participate in the Program and to continue to grow the Program, Intermountain filed an Energy Efficiency Charge change request, Case No. INT-G-19-05, to increase the Rate Schedule EEC per therm rate from $0.00367 to $0.02093. The request was approved in Order No. 34454, with an effective date of October 1, 2019. As of December 2019, the Intermountain Energy Efficiency Program deferral balance was under-collected by $442,387.

To build on the success and momentum established in the first program year, Intermountain repeated and expanded on successful outreach activities and continued to focus on three target audiences: customers, contractors (HVAC contractors and home energy raters), and home builders.

Intermountain applied lessons learned, program performance, and participant feedback to shape the strategy and administration of the second program year.

Intermountain again utilized traditional outreach and education methods such as bill inserts, social media and the energy efficiency website pages to promote energy efficiency to customers and community alike. To expand on this outreach strategy, Intermountain conducted a first-time radio and digital media campaign in combination with the annual customer energy efficiency bill insert and engaged Intermountain customers in an energy efficiency survey.

To raise awareness about home energy efficiency and the benefits of an ENERGY STAR certified home, a two-year special community partnership with Boise Valley Habitat for Humanity (BVHFH) culminated on Earth Day 2019 with the completion of the 2019 Habitat for Humanity ENERGY STAR certified home. The project was celebrated with an official ribbon cutting ceremony and the first ever BVHFH open house which was open to the community.

Intermountain frequently received feedback from contractors about the straightforwardness of the Program requirements and of the application itself. A frequent request was the need for an online application. To keep things simple and easy to access, in October of 2019, Intermountain launched both a contractor portal as a one-stop resource for contractors, and an online rebate application. In just three months' time, 245 rebates were processed utilizing the online form, streamlining both the application process for users and internal rebate processing for the Company.

Intermountain is focused on energy efficiency today, but also looks forward to an energy efficient future. In December 2019, Intermountain joined the North American Gas Heat Pump Collaborative (Collaborative), a workgroup of 16 utilities representing over 27% of all North American residential customers. The mission of the workgroup is market transformation, or more specifically, to accelerate the adoption of natural gas heat pump technologies with potential to bring new energy saving opportunities to customers and reduce greenhouse gases. Participation in the Collaborative builds upon the Company's involvement in the Emerging Technology Program (ETP), facilitated by the Gas Technology Institute (GTI).

The Energy Efficiency Stakeholder Committee met in the spring and fall of 2019, in Twin Falls and Boise respectively. The group provided valuable insight from a variety of industry perspectives (contractor, builder, regulatory and environmental) and provided guidance regarding all aspects of the Program including performance and future plans for the Program.

This Energy Efficiency 2019 Annual Report provides a review of Intermountain's Energy Efficiency Program finances, cost-effectiveness and performance by measure. It also includes Program activities and lessons learned throughout 2019 and outlines future plans for the EE Program.

Intermountain Gas Company
Introduction
2019

Intermountain Gas Company, a subsidiary of MDU Resources Group, is a natural gas distribution company serving approximately 375,885 residential, commercial and industrial customers in 76 communities across Southern Idaho since 1955.

In addition to providing customers warmth and comfort in the cleanest, safest and most affordable way possible, the Energy Efficiency Program specifically strives to provide customers opportunities to learn and engage as energy efficient consumers, to minimize waste and maximize resources, to be good stewards of the environment, and of course, to save money. Beyond the benefits provided to individual customers through participation in the Energy Efficiency Program, all of the Company's customers benefit from the efficient use of natural gas. Efficient use of resources delays the need for expensive system upgrades while still providing customers with safe, reliable, and affordable service.

Approved by the Idaho Public Utilities Commission in Order No. 33388, the Program went into effect on October 1, 2017. The Company began its efforts to pursue cost-effective energy efficiency in the form of natural gas savings by creating an energy efficiency rebate program. The Energy Efficiency Program was offered to all customers receiving natural gas through IGC's Residential Rate Schedule. The Program offers rebates on natural gas equipment meeting specific high efficiency requirements, and can be applied to replacement equipment, conversion from other fuel sources and new construction. The Program also offers rebates for new construction homes that meet two complementary home energy efficiency measures: qualifying for the EPA's time-tested ENERGY STAR Certified Home Program, combined with a HERS (Home Energy Rating System) Index of 75 or less.

The EE Program is funded by the Energy Efficiency Charge (EEC) rider. The initial plan to acquire cost-effective therm savings with the allocation of $777,000 in annual rider funds, was quickly exceeded in each of the first two years of the Program due to the enthusiastic level of customer participation to save energy and money. In order to allow all interested customers to participate in the Program, the Company carried the balance of under-collected funds and began 2019 with an under-collected deferral balance of $310,870. In anticipation of continued customer interest in pursuing energy saving measures, the Company requested an Energy Efficiency Charge revision, Case No. INT-G-19-05, to increase the per therm rate on Rate Schedule EEC from $0.00367 to $0.02093. This change was estimated to result in a monthly increase of approximately $1.07 for the typical residential customer. The request was approved in Order No. 34454, with an effective date of October 1, 2019. Additionally, all expenses through 2018 were deemed prudently incurred by the Idaho Public Utilities Commission in Order No. 34536, Case No. INT-G-19-04.

Despite the increased EEC, customer participation in the Program continues to outpace the plan resulting in an under-collected balance of $442,387 at the close of 2019, with 73% of fund expenditures paid directly to customers in the form of rebate incentives (see Table 1).

2019 Plan to Actual Comparison		
	Plan	Actual
Revenue	$ 777,000	$ 2,671,829
Program Expenses		
Residential Energy Efficiency Rebates	600,000	2,054,550
Labor	147,000	497,726
Program Delivery	30,000	44,348
CPA	-	195,722
Market Transformation	-	11,000
Total Program Expenses	777,000	2,803,346
2019 Rider Deferral Over/(Under) Collection		(131,516)
Prior Year Rider Balance Over/(Under) Collection		(310,870)
Rider Account Balance Over/(Under) Collection	$ -	$ (442,387)

Table 1. 2019 Plan to Actural Comparison

Intermountain Gas Company
Energy Efficiency Programs
2019

Conservation Potential Assessment

Intermountain intentionally designed the initial Program to be a modest offering to allow for proper ramp up and promotion of the new Program. Based on the positive response to the initial offering, Intermountain took the next steps in the evolution of the Program to refine and expand cost-effective energy saving opportunities. The first CPA was completed mid-2019. CPA expenses were spread over two program years, $48,987 in 2018 and $195,722 in 2019 for a total cost of $244,709. The purpose of the CPA was to conduct a more robust analysis of all cost-effective measures to support both short-term energy efficiency planning and long-term resource planning activities. More specifically the CPA study:

- Identified opportunities: assessed achievable Demand Side Management (DSM) opportunities to improve EE Program planning and help identify long-term savings objectives, and determined which sector, end-uses and measures hold the most potential. The study resulted in Technical, Economic, and Achievable potential therm savings forecasts which served as an input into IGC's Integrated Resource Plan.
- Informed Energy Efficiency Program planning: portfolio and program design considering funding level, market readiness and other constraints

The CPA study, in conjunction with the findings of the Evaluation, Measurement and Verification (EM&V) to be conducted in 2020, will be applied to refine, expand and grow the Intermountain EE Program. Intermountain will seek input from the EE Stakeholder Committee regarding any changes or additions to the residential offering. Conservation potential of the commercial market was also provided in the CPA. Intermountain will use this study to design a commercial offering and will follow the same process of consulting with the EE Stakeholder Committee on the design of a commercial offering. The CPA was filed as Exhibit 4 of Case No. INT-G-19-07.

The Company calculated the results of the EE Portfolio using both Pre and Post-CPA measure inputs of measure therm savings, estimated useful life (EUL), and incremental cost. Intermountain is including the initial Program design measure inputs, or Pre-CPA, as this was the most complete information known at the start of the program year (the CPA was not completed until mid-2019). Details of the re-calculated therm savings and cost-effectiveness tests after applying CPA inputs (i.e. Post-CPA results) are provided as well as comparisons of Pre and Post-CPA results.

Intermountain measured the cost-effectiveness of the Energy Efficiency Program portfolio based on two industry standard metrics, the Utility Cost Test (UCT) and Total Resource Cost (TRC). Although both metrics are commonly used for measuring cost-effectiveness, the Company relies more on the UCT because it measures the cost-effectiveness of items directly under the Company's control.

The UCT measures cost-effectiveness from the utility company's perspective and takes into consideration avoided supply costs, program administration costs, and incentives paid by the utility. The TRC measures cost-effectiveness from the customer's perspective and focuses on avoided supply costs, program administration costs, and net participant costs. For both the UCT and TRC, a benefit-to- cost ratio of 1.0 or above indicates that the benefits have exceeded the costs.

Although the Commission found 2017-2018 expenses to be prudently incurred in Order No. 34536, it also ordered that Intermountain review the avoided cost calculation and develop a plan to establish an avoided cost methodology. Intermountain formed an Avoided Costs Subcommittee (Subcommittee), specifically dedicated to addressing avoided cost methodology. This group reviewed and advised on an avoided cost calculation. The Subcommittee agreed on a methodology for calculating avoided costs related to commodity and transportation costs. At the time of this writing, the group had not agreed upon a way to quantify avoided distribution costs.

While the new avoided cost methodology makes cost effectiveness tests more challenging, the Subcommittee conducted a thorough review and will continue to work toward a methodology that includes avoided distribution costs. The avoided cost calculation developed by the Avoided Cost Subcommittee is used to analyze cost effectiveness of the program in this report.

Energy Efficiency Portfolio

The Pre-CPA Energy Efficiency Program portfolio achieved an estimated annual savings of 466,651 therms, exceeding the initial Program year 2 goal of 140,116 therms. The portfolio was cost-effective under the UCT at 1.06 but did not pass the TRC cost-effectiveness test at 0.37, which is reflected in Table 2.

Program Cost-Effectiveness Pre-CPA				
Cost Test	Benefits		Costs	Benefit/Cost Ratio
UCT	$	2,961,945	$ 2,803,345	1.06
TRC	$	2,961,945	$ 8,017,539	0.37

Table 2. Program Cost-Effectiveness Pre-CPA

The 95% AFUE furnace provided the greatest therm savings, contributing 49% of total annual savings, followed by the Whole Home new construction, tankless water heater, combination radiant heat system, 70% FE fireplace insert, and 0.67 UEF tanked water heater measures. There were no 80% AFUE fireplace rebates redeemed and therefore it did not contribute to total therm savings. These results are reflected in Figure 1.

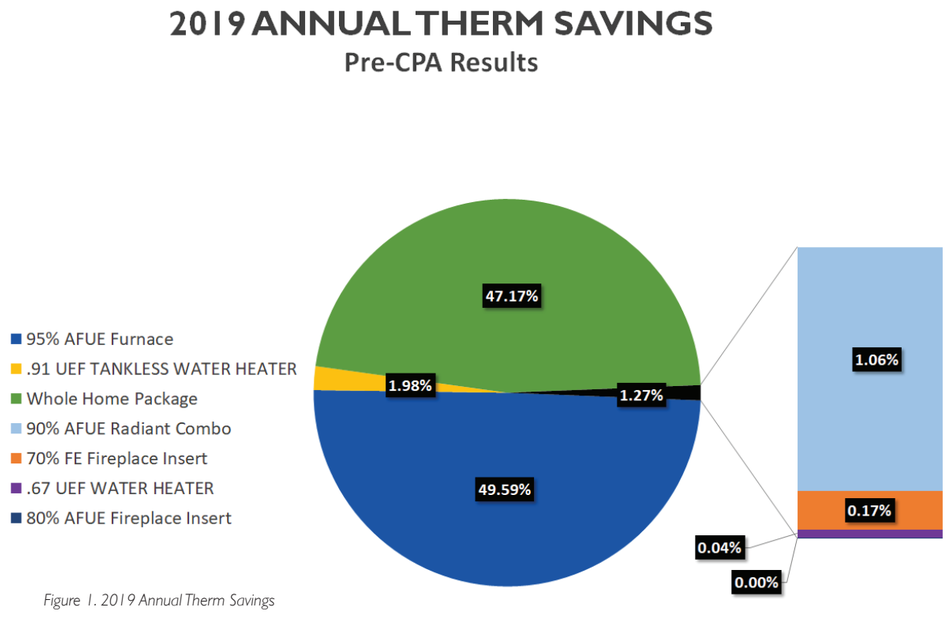

Figure 1. 2019 Annual Therm Savings

After applying the CPA inputs of therm savings, measure life, and incremental cost, total estimated annual therm savings decreased from 466,651 to 389,313 therms. Under this scenario, the whole home measure contributed the largest percentage of therm savings, instead of the furnace incentive. The cost-effectiveness of the portfolio under the UCT decreased from 1.06 to 0.87, while the TRC ratio increased from 0.37 to 0.40. The Program UCT calculation of cost-effectiveness decreased from Pre-CPA to Post-CPA due to the fact the annual therm savings of four of the six measures in the offering were reduced, reducing the total Program benefits from $2,961,945 to $2,449,625. These updated calculations are reflected in Table 3. Specific input changes and the subsequent impact on cost-effectiveness are presented for each rebate offering.

Cost-Effectiveness Comparison					
	Pre-CPA		Post-CPA		Net Change Increase/(Decrease)
UCT Benefits	$	2,961,945	$ 2,449,625	$	(512,320)
UCT Costs	$	2,803,345	$ 2,803,345	$	-
UCT Benefit/Cost Ratio		1.06	0.87		(0.19)
TRC Benefits	$	2,961,945	$ 2,449,625	$	(512,320)
TRC Costs	$	8,017,539	$ 6,062,860	$	(1,954,679)
TRC Benefit/Cost Ratio		0.37	0.40		0.03

Table 3. Program Cost-Effectiveness Comparison

Based on the Post-CPA cost-effectiveness tests, Program offerings will be revaluated. Intermountain will review the appropriateness of current offerings and incentive levels for each offering. Intermountain will use the CPA results to identify rebates that can be re-designed or new measures that can be included in the Program. The Company will work with its Stakeholder Committee to refine the residential Program based on the CPA results.

Details regarding performance, cost-effectiveness and lessons learned are all presented by individual measure in the following sections. Both Pre-CPA and Post-CPA cost-effectiveness tests are provided as well as the change in measure inputs.

Furnace Incentive

The furnace incentive (furnace) provides customers a $350 rebate for the installation of a high-efficient natural gas furnace with a minimum efficiency rating of 95% AFUE or greater. Intermountain issued 2,066 furnace rebates during 2019, a 55% increase over the prior program year. The Pre-CPA estimated annual therm savings attributed to the furnace incentive totaled 231,392 and was cost-effective with a UCT of 1.15 but was not cost-effective under the TRC at 0.41.

After applying the CPA inputs, the furnace rebate cost-effectiveness under the UCT decreased from 1.15 to 0.97. The Post-CPA UCT was just under the cost effectiveness target of 1.0 at 0.97 and was not cost-effective based on TRC.

Furnace Incentive			
	Pre-CPA	Post-CPA	Net Change Increase/(Decrease)
Therm Savings	231,392	177,676	(53,716)
Rebates Issued	2,066	2,066	-
UCT	1.15	0.97	(0.18)
TRC	0.41	0.35	(0.06)

Table 4. Furnace Incentive

The following table outlines the change in the furnace measure inputs Pre and Post-CPA. Estimated annual therm savings per furnace were reduced from 112 therms to 86 therms and the estimated useful life was reduced by one year, while the incremental cost remained unchanged.

Furnace Incentive Input Comparison			
	Pre-CPA	Post-CPA	Net Change Increase/(Decrease)
Annual Savings (Therms)	112	86	(26)
Incremental Cost ($)	$ 1,307	$ 1,307	$ -
Estimated Useful Life (Years)	21	20	(1)

Table 5. Furnace Incentive Input Comparison

HVAC contractors continued to play a key role in the awareness and performance of the furnace incentive because they are with the customer at the point of decision and have an opportunity to educate and promote the benefits of choosing a high-efficient option. Intermountain will continue to focus on growing HVAC contractor participation in the EE Program through outreach and providing contractor resources.

Rebates for furnace retrofits made up the majority of the 2,066 rebates, while new construction rebates accounted for 17% of furnace rebates. Builder participation in appliance rebates continued to increase as new construction only accounted for 7% of furnace rebates in the previous year. The Company will continue to promote appliance rebates with builders as a first step to incorporating energy efficiency measures into new construction.

Combi Radiant Heat System Incentive

Intermountain offers a $1,000 rebate for the installation of a 90% or greater efficiency condensing tankless combination system for space and water heat (combi radiant heat system). Intermountain issued 11 rebates for the combi radiant heat system during the 2019 program year, an increase from 3 rebates issued during the prior program year. The Pre-CPA estimated annual therm savings were 4,961 therms, and the combi radiant heat system was cost-effective with a UCT of 1.58 but was not cost-effective under the TRC at 0.56.

Post-CPA estimated annual therm savings decreased by 3,718 therms causing a significant reduction to the UCT and TRC ratios. The UCT decreased from cost-effective at 1.58 to not cost-effective at 0.56, with the TRC ratio decreasing from 0.56 to 0.19.

Combi Radiant Heat System Incentive			
	Pre-CPA	Post-CPA	Net Change Increase/(Decrease)
Therm Savings	4,961	1,243	(3,718)
Rebates Issued	11	11	-
UCT	1.58	0.56	(1.02)
TRC	0.56	0.19	(0.37)

Table 6. Combi Radiant Heat System Incentive

The combi radiant heat system experienced the greatest reduction in estimated per measure annual therm savings of all the EE Program offerings when updated with CPA results. While the estimated useful life increased by one year, the incremental cost increased significantly.

Combi Radiant Heat System Incentive Input Comparison			
	Pre-CPA	Post-CPA	Net Change Increase/(Decrease)
Annual Savings (Therms)	451	113	(338)
Incremental Cost ($)	$ 2,500	$ 3,522	$ 1,022
Estimated Useful Life (Years)	21	22	1

Table 7. Combi Radiant Heat System Incentive Input Comparison

Lessons Learned | Combi Radiant Heat System

The combi radiant heat system incentive experienced a significant percentage increase, but actual uptake was still quite slow from 3 rebates in 2018 to 11 in 2019. A contractor suggested exploring a boiler rebate because a home with a radiator system for space heat, cannot utilize this incentive since the water cannot be used for both space and water heating. Based on lessons learned and Post-CPA results, the viability of this measure will be reviewed.

Fireplace Incentive

Intermountain provided two high-efficient fireplace incentive options: a $100 rebate for the installation of a 70% FE or greater natural gas fireplace insert (70% fireplace), and a $200 rebate for the installation of an 80% AFUE or greater natural gas fireplace insert. There were no qualifying applications for the 80% AFUE Fireplace Insert incentive. Due to continued lack of availability in the market and Commission approval, Intermountain discontinued this rebate in 2020.

Intermountain issued 14 rebates for the 70% fireplace incentive during the 2019 program year, an 8% increase over the number of rebates issued the prior program year. Pre-CPA estimated annual therm savings were 784 therms and the measure was cost-effective with a UCT of 1.72 but was not cost-effective under the TRC at 0.64.

The 2019 annual therm savings attributed to the 70% fireplace decreased drastically from 784 to 140 therms after incorporating the CPA inputs. Based on UCT calculations, the fireplace is no longer cost-effective with a benefit-to-cost ratio change from 1.72 to 0.49. The fireplace incentive was not cost-effective under either scenario based on TRC ratios of 0.64 and 0.47.

70% Fireplace Incentive			
	Pre-CPA	Post-CPA	Net Change Increase/(Decrease)
Therm Savings	784	140	(644)
Rebates Issued	14	14	-
UCT	1.72	0.49	(1.23)
TRC	0.64	0.47	(0.17)

Table 8. 70% Fireplace Incentive

The incremental cost of a 70% fireplace decreased significantly from $425 to $107 and the estimated annual therm savings per measure decreased from 56 to 10 therms after incorporating the CPA results. The estimated useful life of the measure was unchanged.

70% Fireplace Incentive Input Comparison			
	Pre-CPA	Post-CPA	Net Change Increase/(Decrease)
Annual Savings (Therms)	56	10	(46)
Incremental Cost ($)	$ 425	$ 107	$ (318)
Estimated Useful Life (Years)	20	20	-

Table 9. 70% Fireplace Incentive Input Comparison

Lessons Learned | Fireplace Incentive

Despite offering the 80% AFUE fireplace another year, it further proved to be an emerging technology that would not emerge in the Intermountain market. The requirement for a condensate line for installation of this equipment created a significant barrier to adoption. For this reason, the offering will be discontinued in 2020.

The 70% fireplace incentive experienced a modest increase. The typical fireplace insert is designed and installed primarily as a decorative element, rather than as a heat source. As families mature and children leave the nest, “empty-nesters” often use the decorative fireplace insert as a supplemental heat source. Rather than heat the entire home, inserts are used to heat a single room. The typical appliance itself is not designed to be a heat source and use of the fireplace insert in this way is particularly inefficient. The 70% fireplace is a more efficient option, providing both decorative aesthetics and modest savings. Based on the lessons learned and Post-CPA results, this measure offering will be reviewed.

Water Heater Incentive

Intermountain offered a $50 rebate for the installation of a 0.67 UEF water heater (water heater). The Company issued 8 water heater rebates during the 2019 program year; an 11% decrease compared to the number of rebates issued during the prior program year. The Pre-CPA cost-effectiveness for this measure under the UCT and TRC was 1.30 and 0.29, respectively.

Cost-effectiveness tests for the water heater rebate after applying CPA inputs were relatively unchanged. Cost-effectiveness ratios increased slightly under the UCT from 1.30 to 1.34, and the TRC ratio increased from 0.29 to 0.36.

Water Heater Incentive			
	Pre-CPA	Post-CPA	Net Change Increase/(Decrease)
Therm Savings	176	304	128
Rebates Issued	8	8	-
UCT	1.30	1.34	0.04
TRC	0.29	0.36	0.07

Table 10. Water Heater Incentive

The annual estimated per water heater therm savings increased by 16 therms after incorporating the CPA results. Additionally, the incremental cost increased by $41 and the estimated useful fell from 16 to 13 years.

Water Heater Incentive Input Comparison			
	Pre-CPA	Post-CPA	Net Change Increase/(Decrease)
Annual Savings (Therms)	22	38	16
Incremental Cost ($)	$ 349	$ 390	$ 41
Estimated Useful Life (Years)	16	13	(3)

Table 11. Water Heater Incentive Input Comparison

Lessons Learned | Water Heater Incentive

To achieve a 0.67 UEF efficiency on a tanked water heater requires the appliance to have power venting. Depending on the location of the water heater in the home, in addition to the cost of the equipment upgrade, installation of an electric outlet may also be required. Installation challenges encountered in retrofit situations can likely be avoided by incorporating a high-efficient water heater in the planning stages in new construction. The Company will explore additional outreach and education opportunities with builders regarding this measure.

Tankless Water Heater Incentive

The Company offered a $150 rebate for the installation of a 0.91 UEF, or greater, condensing tankless water heater (tankless water heater). Intermountain issued 159 tankless water heater rebates during the 2019 program year, an 81% increase over the prior program year. Under the Pre-CPA scenario, the tankless water heater incentive was cost-effective based on the UCT of 1.30 but was not cost-effective with a 0.22 TRC ratio.

Post-CPA, the estimated annual therm savings for the tankless water heater increased to 10,335 and benefit-to-cost ratios increased under both UCT, from 1.30 to 1.58, and TRC, from 0.22 to 0.23.

Tankless Water Heater Incentive			
	Pre-CPA	Post-CPA	Net Change Increase/(Decrease)
Therm Savings	9,222	10,335	1,113
Rebates Issued	159	159	-
UCT	1.30	1.58	0.28
TRC	0.22	0.23	0.01

Table 12. Tankless Water Heater Incentive

Like the tanked water heater, the estimated annual therm savings per tankless water heater incentive increased after incorporating the CPA results. Additionally, the incremental cost for the tankless water heater increased by $440, and the estimated useful life rose significantly from 18 to 25 years.

Tankless Water Heater Incentive Input Comparison			
	Pre-CPA	Post-CPA	Net Change Increase/(Decrease)
Annual Savings (Therms)	58	65	7
Incremental Cost ($)	$ 1,360	$ 1,800	$ 440
Estimated Useful Life (Years)	18	25	7

Table 13. Tankless Water Heater Incentive Input Comparison

Lessons Learned | Tankless Water Heater Incentive

The condensing tankless water heater increased significantly over the 2018 program year, mostly due to a home builder which incorporated the tankless water heater into its build process. Although this measure does provide energy savings, payback can vary greatly due to varying installation requirements particularly in retrofit situations. There are both consumer and contractor education opportunities to explore regarding this incentive. Specifically, consumers need to understand that the tankless water heater can be a good option for smaller spaces. Additionally, contractors need to take into consideration the proper sizing, venting requirements and gas supply issues when installing tankless water heaters.

Whole Home Incentive

Intermountain offered a $1,200 rebate for residential ENERGY STAR certified new construction with a HERS score of 75 or less (Whole Home). Intermountain issued 1,079 rebates for the Whole Home incentive during the 2019 program year, a 74% increase over the prior program year. The Pre-CPA estimated annual therms savings attributed to the whole home incentive totaled 220,116 therms. This measure was just under the benefit-to-cost ratio threshold of 1.0 with a UCT of 0.99, but was not cost-effective under the TRC at 0.35.

Post-CPA, the estimated annual therm savings decreased from 220,116 therms to 199,615 therms, and neither UCT nor TRC benefit-to-cost ratio was cost-effective.

Whole Home Incentive			
	Pre-CPA	Post-CPA	Net Change Increase/(Decrease)
Therm Savings	220,116	199,615	(20,501)
Rebates Issued	1,079	1,079	-
UCT	0.99	0.80	(0.19)
TRC	0.35	0.52	0.17

Table 14. Whole Home Incentive

Table 15 outlines the change in the Pre and Post-CPA inputs for the Whole Home incentive. Per measure estimated annual therm savings decreased by 19 therms and the incremental cost decreased significantly from $4,000 to $2,117. The CPA also reduced the estimated useful life from 30 to 25 years.

Whole Home Incentive Input Comparison					
	Pre-CPA		Post-CPA		Net Change Increase/(Decrease)
Annual Savings (Therms)		204		185	(19)
Incremental Cost ($)	$	4,000	$	2,117	$ (1,883)
Estimated Useful Life (Years)		30		25	(5)

Table 15. Whole Home Incentive Input Comparison

Lessons Learned | Whole Home Incentive

Twenty-four ENERGY STAR certified builders participated in the Program in 2019. Eighteen builders were repeat builders established in 2018 and nine new builders earned ENERGY STAR certification in 2019. Three ENERGY STAR certified builders from 2018 did not apply for rebates in 2019. Of these three builders, two were low volume builders of highly custom project homes, and the third builder faced internal organizational restructuring.

Figure 2 illustrates the geographical distribution of Whole Home rebates issued throughout the service area. While participation in all regions grew over last year, the Treasure Valley continues to have the highest number of Whole Home rebate participants. Other EE Program offerings showed participation in all districts, while the Whole Home incentive participation lags and thrives by region.

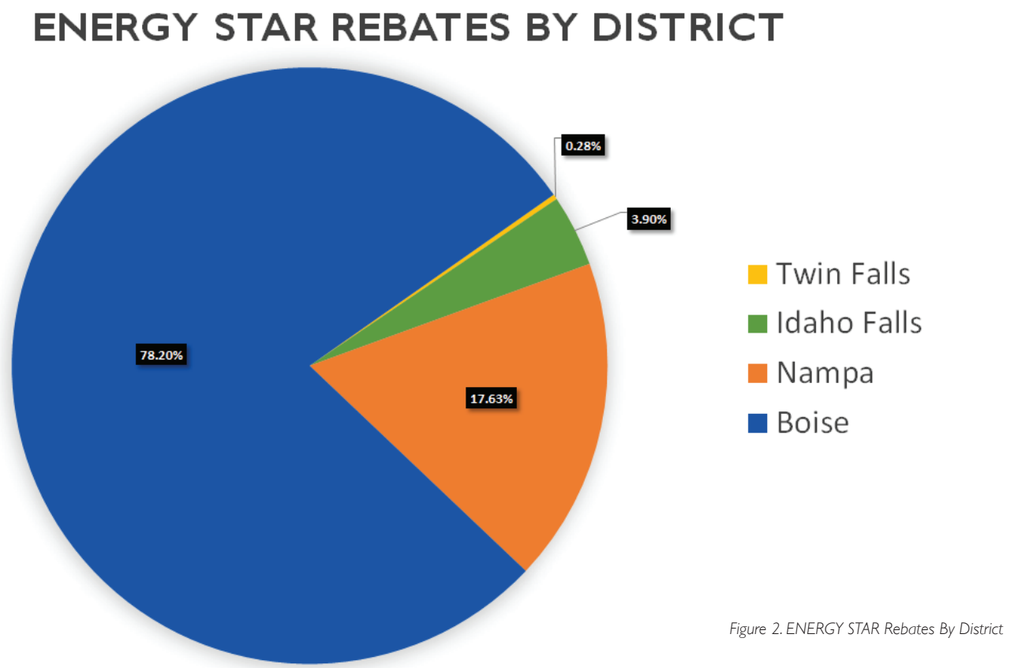

Figure 2. ENERGY STAR Rebates By District

Figure 3 below shows the distribution of HERS scores for ENERGY STAR certified homes that participated in the Program in 2019. While ENERGY STAR home certification is straightforward (the home either meets the strict requirement for certification set by EPA's ENERGY STAR Certified Home program, or it does not), the HERS score offers a scale on which to compare the energy efficiency performance of one home against another, much like a miles-per-gallon (MPG) comparison of automobiles. In the case of the HERS score, the lower the score the more energy efficient the home.

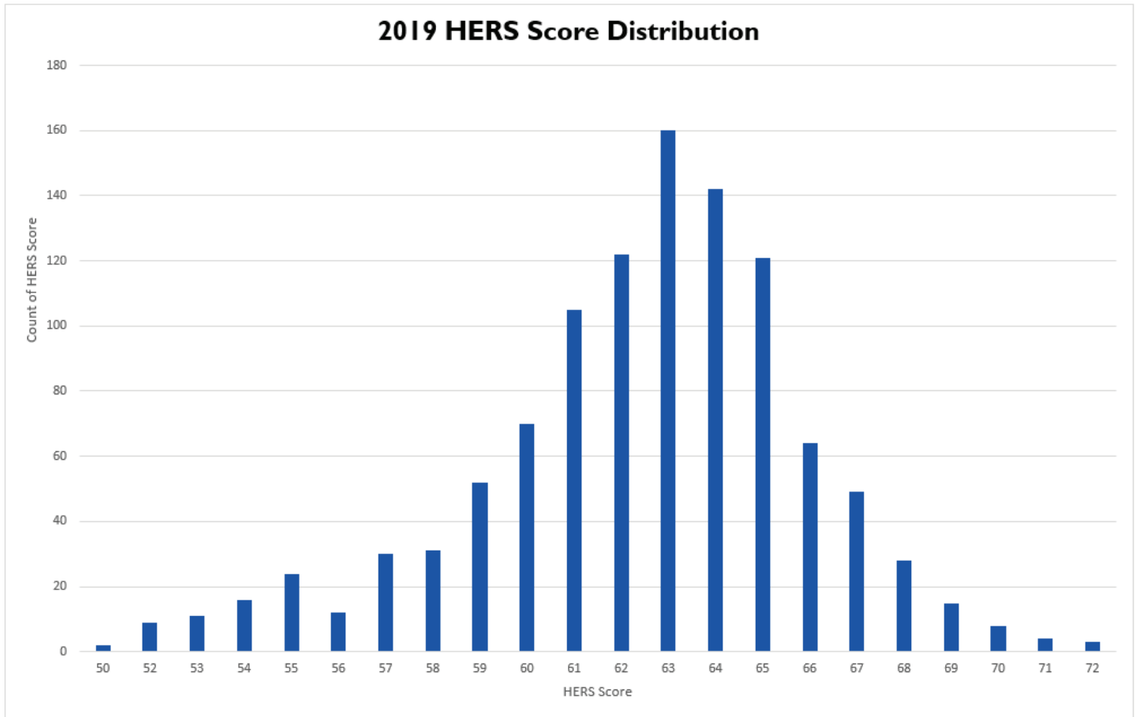

Figure 3. HERS Score Distribution

According to the RESNET report, Trends in HERS Rated Homes, 14% of one- and -two family new homes in Idaho received a HERS score in 2019 based on permit data from the U.S. Census Bureau. Of the 14%, or 2,121 new homes recorded by RESNET, Intermountain issued rebates to 1,079 of these homes under the Whole Home incentive. The national average HERS score for 2019 was 59.

The average HERS score of homes rebated by Intermountain increased to 63 during the 2019 program year, over the previous year's average of 61. On the surface, it may appear that the average HERS score is moving toward less efficient and would be true in the case of a singular home. It is important to remember both ENERGY STAR certification and the HERS score often require a builder to change many aspects of the build process. This includes the architect drawing up house plans to training subcontractors on the direct application of energy efficiency measures in the construction process. To achieve a lower, more energy efficient, HERS score requires significantly more investment of materials or improvement of construction technique, and/or expertise. For a builder just beginning to incorporate above code energy efficiency measures into the build process, setting the bar too high, or in this case the HERS score too low, as a participation benchmark can prohibit participation. The jump from a code-based home to an aggressively low HERS score can involve an insurmountable number of changes. The addition of more newly certified builders to the Program, who may earn higher HERS scores as they learn the process, is one possible explanation for the higher average HERS score in 2019.

Both the overall number of homes earning ENERGY STAR certification and the HERS score have increased, as have the number of ENERGY STAR certified builders. A particularly significant note about this growth is the fact that one of the new builders participating in the Program is a production builder. As defined by National Association of Home Builders (NAHB), production builders typically build homes priced for first-time and move-up buyers. Participation in the ENERGY STAR certified home program by a production builder is proof that home energy efficiency is achievable at any price point, and more importantly at a first-time buyer price point. One of the most overlooked considerations in the energy efficiency investment conversation, whether it be about appliances or homes, is the difference between purchase price and the price to operate. When the reduction in long-term operating costs due to home energy efficiency is also considered, an ENERGY STAR certified home, only makes affordable housing more affordable. This builder is also striving to earn the status of 100% certified, meaning every home built will be ENERGY STAR certified. There is currently only one 100% certified builder in the state of Idaho.

The Company identified several factors that it suspects contribute to the regionality of participation in the Whole Home incentive, best explained using a popular real estate mantra: location, location, location. The location of the growth in Idaho is primarily in the Treasure Valley. The area with the largest growth in home building, subsequently also has the greatest number of ENERGY STAR certified homes. The location of ENERGY STAR certified HVAC contractors and home raters is another contributing factor, or in this case a barrier to participation. At least two regions truly lack ENERGY STAR certified HVAC contractors and home raters, and these two areas also have the lowest participation. In 2019, Intermountain offered HVAC contractors a course subsidy to offset ENERGY STAR certification training fees and will continue to explore market barrier reduction strategies. Finally, the building code in specific locations also plays a role in whole home rebate participation. The building code varies from jurisdiction to jurisdiction. In regions where the building code is less rigorous, meeting ENERGY STAR certified home requirements requires more effort by the builder. While there is potential to capture greater energy savings in these areas, it will also require significant education and outreach efforts. Where this is the case, the appliance rebate incentive has been promoted to builders as an introductory way to incorporate energy efficiency in new construction. From 2018 to 2019, the number of appliance rebates claimed by builders increased from 97 to 356, or a 267% increase. Intermountain will continue to build on these initial steps of incorporating energy efficiency into new construction to eventually move builders to a whole home approach.

Intermountain Gas Company
Program Outreach, Awareness, and Education

2019

Energy Efficiency Team

To build on the success of the first year of the Program, and continue to manage and grow the Program, Intermountain also grew the energy efficiency team. To best manage the growth and expansion of the EE Program, the Company dedicated a program manager full-time, a position previously split between the Regulatory Department and Energy Efficiency. Even with this modest expansion, the Intermountain service area remained a large geographical territory to serve. The Company explored several options to help expand the reach of the energy efficiency message to regions outside the Treasure Valley.

Although the Company needed to grow the energy efficiency staff, Intermountain decided not to hire any additional positions to reside in the general office in Boise, which would have required additional expenses to travel to other regions in the service area. Although the Company considered hiring additional positions to reside in the district offices to solely deliver energy efficiency responsibilities for that region, it ultimately implemented a more efficient solution which provides benefits to customers and the Company. ESRs are responsible for supporting existing and prospective residential and commercial customers, and routinely work with builders, contractors, residential and commercial customers. They are representatives of Intermountain Gas in their respective communities, participating in the Building Contractors Associations, Chambers of Commerce, civic groups, and industry related trade shows. These are the very same groups of customers and types of community involvement the Energy Efficiency Team strives to reach with its energy efficiency message. Rather than duplicate efforts or require customers to contact different departments for different but complementary services, Intermountain is utilizing ESRs to provide customers a one-stop-shop experience.

Since implementing this solution, the Company has seen ESRs seamlessly incorporate energy efficient solutions as part of Intermountain's service to its customers. In addition, through their daily connection to customers, ESRs are more in tune to customer feedback about the EE Program, can see developing trends, potential roadblocks to participation or beneficial program elements for the Program to build on or expand. Customers, builders, contractors or energy raters no longer must wait for an energy efficiency team member to come to town, since they can now access ESRs throughout the service territory. Sharing these responsibilities has allowed the energy efficiency team to better coordinate and focus on energy efficiency outreach and promotion strategy, develop marketing materials and outreach activities, and engage in energy efficiency industry related activities like the Idaho Code Board meetings and emerging energy issues.

The ESRs absorbed energy efficiency into their suite of services to offer customers in June of 2019. Instead of adding two full-time energy efficiency analysts, the Company instead added two ESR positions and the EE Program now underwrites 25% of each of the eight ESR positions. The ESR and energy efficiency team regularly share information about energy efficiency related issues, including rebate performance, emerging trends, and solutions to shared challenges. ESRs traveled to Boise for a half-day training and team building event in August of 2019 which focused on both energy efficiency and energy services matters.

2019 Program Outreach, Awareness, and Education

Customers and the Community

In this second year, the EE Program focused on three major groups for outreach and education: customers, which includes the community at large, contractors (both home energy raters and HVAC contractors) and home builders. Intermountain used a variety of dynamic approaches to reach these three target groups.

IGC promoted energy efficiency to customers using social media platforms, including Facebook, Instagram, Twitter, and YouTube. The Company also sends an energy efficiency program insert to new customers when they start service. In 2019, the Company sent 33,761 of these new customer energy efficiency inserts to raise awareness about the EE Program. Social media outreach efforts focused on energy efficiency tips, program promotion, and education. The Company designed these posts to pique interest in rebates by highlighting customers receiving raffle prizes, featuring information about rebates, highlighting home energy features on ENERGY STAR certified homes, and promoting opportunities to visit ENERGY STAR certified homes. The U.S. Environmental Protection Agency recognized the EE Program as an ENERGY STAR Market Leader for its contribution to the construction of 1,079 ENERGY STAR homes in the 2019 program year.

Figure 4. EPA 2019 Market Leader Award

To expand the reach and awareness of the Energy Efficiency Program, Intermountain explored ways to promote the Program outside of a bill insert, Facebook posts, or passively waiting for information seekers to stumble across the energy efficiency website. Instead, Intermountain engaged in a search engine optimization experiment using YouTube and Google Ads campaigns, attempting to direct users to the Intermountain EE website through search engine results. For a very modest investment of approximately $100 for both platforms, YouTube and Google Ads, the campaigns were conducted from February 11-28, 2019. The campaigns produced mixed results but provided valuable feedback about these kinds of outreach methods.

The YouTube campaign was not successful. First, the length of the video used for the campaign presented challenges for the places the video could appear, severely limiting its exposure. Second, there were very few searches on YouTube for "energy efficiency" or "ENERGY STAR," at least during the time frame of the campaign.

Although the YouTube campaign did not produce the desired results, the Google Ad campaign proved very successful. The campaign generated 855 clicks on the ad, and a conversion rate (meaning users not only clicked on the ad, but also went on to visit the EE website) of 108%. The conversion rate exceeded 100% due to the counting of repeat visitors, not just unique visitors to the website. During the 18-day period prior to the campaign, the EE page received 938 visits. During the 18 days of the campaign, visits increased to 1,653. As part of the campaign a list of search terms, such as "energy star program," "saving energy," "energy conservation," and "home rebate" were designated as key search words to drive Google search users to the Intermountain Energy Efficiency website. When these words or phrases appeared in a search, the Intermountain website appeared in the search results. This campaign revealed, at least during this time period, that energy efficiency terms were rarely used in internet searches.

The EE web pages received clicks from all regions of the Intermountain service territory, but the only phrase or word searched was “Intermountain Gas.”

Intermountain also conducted an energy efficiency marketing campaign during the months of October and November in conjunction with the annual energy efficiency bill insert. The campaign included a coordinated effort around the timing of the bill insert which included an energy efficiency customer survey, radio ads, internet banner ads and promotion of the EE Program on the premium web page space “front page, above the fold,” on the Company’s main web page.

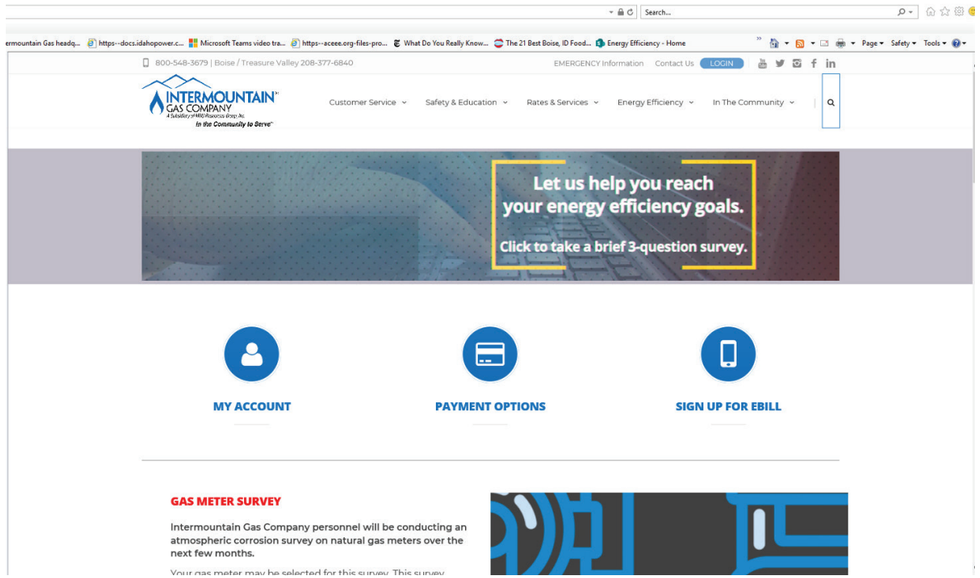

Figure 5. IGC Website with EE Customer Survey

The November bill insert provided energy saving tips about high-efficiency equipment and the related energy efficiency incentives in the Program offering.

Figure 6. 2019 EE Bill Insert

A section on the bill insert encouraged customers to participate in a brief three question survey to “Tell us a little bit about yourself so we can better meet your energy efficiency needs.”

The survey consisted of three multiple choice questions:

1. When did you hear about the Intermountain Gas Company Energy Efficiency Program?

As seen in Figure 4, the most frequent response was “Just now”, or 72% of respondents.

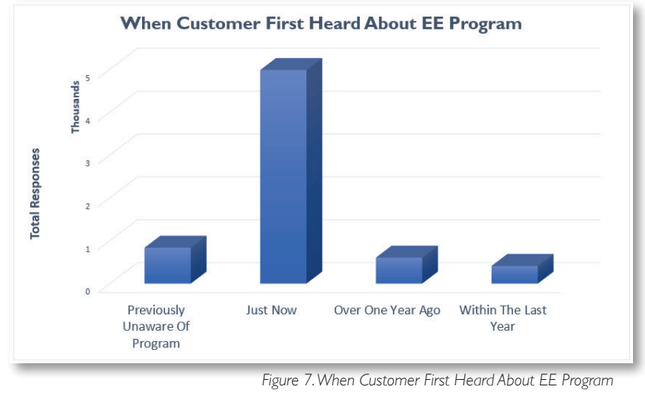

Figure 7. When Customer First Heard About EE Program

2. What is the equipment efficiency rating of your furnace? Go to ww.intgas.com/saveenergy to learn how a high efficiency furnace can help lower monthly bills and earn a $350 rebate!

As seen in Figure 5, most respondents (63%) did not know the efficiency of their furnace.

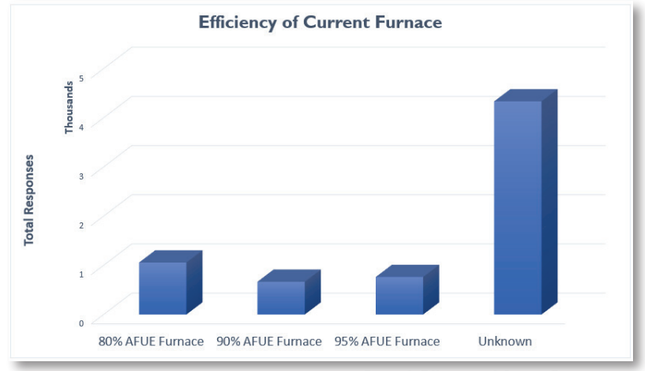

Figure 8. Efficiency of Current Furnace

3. Where do you go first when you need information about home energy efficiency?

As seen in Figure 6, 60% of respondents chose “Search Engine.”

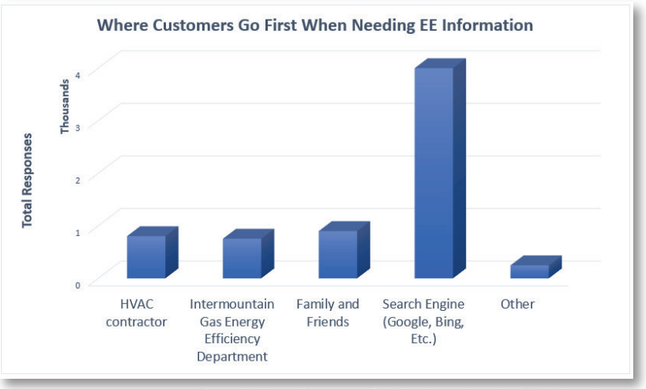

Figure 9. Where Customers Go First When Needing EE Information

While the survey responses provided valuable information, the actual intent of the survey was to benchmark customer engagement with energy efficiency. To explore customer engagement, the Company printed on the bill insert both a QR (Quick Response) code and web address to access the survey. In addition to the bill insert, the Company sent a total of 154,883 survey invitations to customers by email. The email was only sent to residential customers with service starting between 2010 to October 2019, and who were opted-in to receive email communications. The average click rate (a metric expressed as a percentage of respondents that click on an ad to visit a website) for email campaigns across all industries is approximately 2.62% according to a recent MailChimp study (https://mailchimp.com/resources/email-marketing-benchmarks/). The click rate for the EE campaign was 11%. The average conversion rate across all industries (a metric expressed as a percentage of website visitors who complete an action out of the total number of visitors) is 15.91% according to a study by Barilliance (https://www.barilliance.com/email-marketing-statistics/#:~:text=Average%20Email%20Conversion%20Rates%20(CR)%20Statistics%20Over%20Time,-The%20first%20thing&text=The%20average%20conversion%20rate%20peaked,respectable%2015.11%25%20conversion%20in%202020.) The conversion rate for the energy efficiency campaign was 4.5%. For comparison, an unrelated Intermountain "eblast" that encouraged customers to enroll in online account services had a 2.2% conversion rate. The high click rate for the energy efficiency campaign, yet subsequently relatively low conversion rate indicated the email survey invitation obtained the proper response (respondents clicked on the link for the survey), but the landing page did not inspire engagement (respondents did not participate in the survey). The Company learned several lessons from this customer engagement benchmarking activity. While the QR code may be gaining in familiarity from its frequent use in marketing information, only 16 respondents accessed the survey by way of the QR code, with all of the remaining respondents using the web address or link provided in the email. Survey results show many opportunities still exist to raise awareness about the Program and educational opportunities around the importance of furnace efficiency. The benchmark activity also demonstrated that customers were willing to "click." However, to achieve true customer engagement, future landing pages need to be more engaging to translate high click rates into high conversion rates.

Intermountain simultaneously conducted a radio and internet campaign in conjunction with the bill insert and energy efficiency customer survey. The Intermountain EE team collaborated with in-house talent to produce marketing materials and contracted with a third party to procure media ad buys. On-air talent performed live reads on the radio in 10 and 15 second spots, typically with the morning traffic reports. The Company chose to use live reads in the hope that listeners would not automatically tune out when hearing a pre-recorded commercial, but instead "tune in" to the voice of the on-air hosts. On a few occasions, the on-air talent chatted about Intermountain Gas after a live read, extending the 10-15 seconds of actual purchased time. IGC produced five different scripts for the live reads which reminded customers to look for the energy efficiency insert with their bill for money saving tips, while others mentioned specific rebate amounts, for example:

"Save energy and money with up to a $350 rebate with the installation of a qualified natural gas furnace through the Intermountain Gas Energy Efficiency Program. Get rebate details and energy saving tips at Intgas.com/saveenergy."

Figure 10. Digital Banner Ad Creative

The internet digital display campaign included banner ads of various sizes and placement on websites like howstuffworks.com, hometalk.com and msn.com. The results from the radio and internet digital display campaign, which ran from October 21 – November 10, 2019, are summarized below. The CTR, or click through rate, which refers to the percentage of users which click on the ad after seeing the ad, exceeded the standard benchmark.

Summary

- The CTR **nearly tripled** the standard benchmark of 0.05%, with an impressive average of 0.15%
- Phones were the **most effective** device type, with 77% of clicks (1,055 in total)
- The 320x50 mobile banner was the **best performing** creative size with a CTR of 0.16%
- Of known genders, males clicked **nearly double** the amount of times as females (64% vs. 36%)
- Of large delivery centers, Boise and Meridian gained **strong** CTRs of 0.15%

Figure 11. Digital Display Campaign Summary

The Company considers this initial campaign a success in elevating awareness about the Program. The EE department received phone calls that mentioned hearing about the Program on the radio as well as rebate applications that indicated applicants had heard about the EE Program through the radio.

Outreach efforts to the community included promoting energy efficiency rebates at trade shows, like Buy Idaho at the Capitol, the Cliff Bar sustainability fair, and the Association of Idaho Cities Conference. Trade shows such as these are interactive, and provided an opportunity to answer questions, raise awareness about the EE Program and provide helpful tips for ways to save energy. These events give the public the opportunity to put a face to the Company, learn about the offerings that are available to them, and allow staff to answer any questions that they might have. IGC participated in trade shows throughout the Company's service territory and targeted various audiences including the general public, environmental audiences, and youth educational opportunities.

Figure 12. IGC EE Trade Show Booth

IGC also targeted outreach efforts with specific industry related conferences and shows, such as the annual ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers) conference and the Energy Decision Making Conference. The Company attends these events for two reasons: first, these events provide the Company the opportunity to raise awareness about the Program with industry experts; and second, these events provide Energy Efficiency staff the opportunity to learn about new techniques and technologies in the field.

Additionally, IGC hosted information booths at events with the City of Meridian, The Boys and Girls Club, the Boise Metro Chamber of Commerce, the Eagle Chamber of Commerce, and the Boise Exchange Club. These events allowed the Company to support the communities it serves and show its commitment to efficient energy use. Intermountain also presented information about the Program to audiences of the Meridian Chamber of Commerce monthly lunch meeting and the South Central Community Action National Weatherization Day demonstration held in Twin Falls.

Home Builders

Purchasing a home is one of the biggest decisions a consumer will make, yet only approximately half of home buyers consider home energy performance as part of their home buying decision. The Zillow 2017 Consumer Housing Trend report stated only 50% of home buyers mentioned "a home must be energy efficient" in their home buying decision; in 2018 only 56% of home buyers considered energy efficiency to be a "very important" home characteristic. In the 2019 version of this same report, home energy efficiency did not even make the top three "highly important" home characteristics sought out by consumers. Instead consumers were more concerned with being within budget, air conditioning, and the number of bedrooms in the home.

Lack of awareness about the role of energy efficiency in saving money, saving energy, and reducing long term operation costs remains a vast educational opportunity. This is particularly true in a booming real estate market like the Treasure Valley. Builders do not need to differentiate their products by energy efficient attributes. In addition, while consumers immigrating from regions with stricter energy efficiency mandates may be well-versed regarding home energy efficiency performance, the affordability of Idaho energy can result in apathy about responsible use of resources: "it's so affordable, I don't have to care about efficiency." Similar to highlighting the role of energy efficiency in affordable long-term operations, there are opportunities to raise awareness about the role of energy efficiency in preserving the livability and affordability of Idaho.

The Company leveraged its memberships with the five different Building Contractors Associations (BCA) throughout their service territory. During the 2019 program year the Company's participation in the regional BCAs proved to be an effective outreach avenue to promote the Whole Home rebate program with the home building community, as well as related home building industries, such as realtors, and HVAC contractors. Builder outreach efforts took place across IGC's service territory and included hosting information tables at general membership meetings, attending Associates Council committee meetings, and joining BCA committees to gain a deeper understanding of how to connect with builders throughout the service territory. The Company also promoted the rebate Program at three different BCA Builder's Expo events, which are designed to showcase products and promotions exclusively to Parade of Homes builders. This is typically a mandatory event for Parade of Home builders. These events allowed EE staff to personally interact with homebuilders.

Figure 13. EIHBA Builder's Expo Event

A major focus of the EE Program's outreach efforts was the Parade of Homes, sponsored by regional BCAs, which provided an effective outreach strategy with both builders and community members at large. Intermountain offered additional promotional opportunities to builders whose homes earned the IGC Whole Home rebate. This included showcasing ENERGY STAR and HERS marketing materials at the home, hosting an information table in the home, and offering a raffle opportunity to visitors to the ENERGY STAR certified home. To highlight the energy efficiency of the home, Intermountain designed the raffle entry form as a home energy efficiency quiz. The Company also ran a Facebook awareness campaign encouraging followers to visit ENERGY STAR homes to "see the ENERGY STAR difference" by highlighting home energy efficiency benefits. IGC also provided ENERGY STAR marketing materials to assist in educating and raising awareness about home energy efficiency, as pictured below.

Figure 14. EIHBA Parade of Homes Information Table

A key part of the Parade of Homes promotion focused on raising awareness about the authenticity of home energy efficiency claims. Parade of Homes visitors were encouraged to "Look for the Label" (the ENERGY STAR label affixed to the breaker box once a home has been verified by an independent, third party). Since the Whole Home rebate requires a home to be both ENERGY STAR certified and earn a HERS score of 75 or less, the campaign also highlighted the meaning and significance of a HERS score as a measure of home energy efficiency performance. To clarify the difference between modeling and certification, IGC encouraged builders and parade visitors alike to visit the publicly available RESNET national database of HERS scored homes.

While the Parade of Homes campaign was effective in reaching parade builders and parade visitors, outreach to builders who do not participate in the Parade of Homes required a more creative and customized outreach approach. After being advised to "go where they go…the golf course", IGC went to golf course events high in builder attendance. Each BCA hosts at least one golf tournament per year. As an active hole sponsor at the golf tournament, Intermountain promoted the EE Program to each team participating in the tournament. IGC hosted a golf game called the "efficiency hole" where golf teams were timed from tee off to hole out to find the fastest and thus "most efficient" team. On courses where this game was not an option due to safety reasons, Intermountain set up a survey to gauge the knowledge of the participants about the Energy Efficiency Program. The one-on-one face time with home builders from these types of activities proved extremely beneficial in raising awareness about both the appliance and Whole Home rebate incentives. For example, Intermountain discussed its single page and multi-entry form applications during a brief conversation with a builder in Twin Falls to help dispel that builder's misconception of an "extensive application." The builder submitted its first rebate application within the same week.

Figure 15. Magic Valley Building Contractors Sponsorship

Intermountain also participated as the title sponsor of the statewide association, Idaho Building Contractors Association (IBCA). The EE Program hosted information tables at the summer, fall, and winter board meetings, and also attended open meetings to gain better insight into topics and issues important to builders and the industry.

In addition to raising Program awareness through BCA participation and sponsorships, Intermountain also attempted to reach homebuilders that do not participate in a BCA. In 2019, the EE Program mailed informational postcards to over 1,300 registered homebuilders throughout the Company's service territory. However, the lack of response to this outreach activity and ability to trace builder responses to this outreach effort, further supports the value of in-person communications. The Company will continue to explore opportunities to reach builders that do not participate in a building contractor association.

2019 Program Outreach, Awareness, and Education

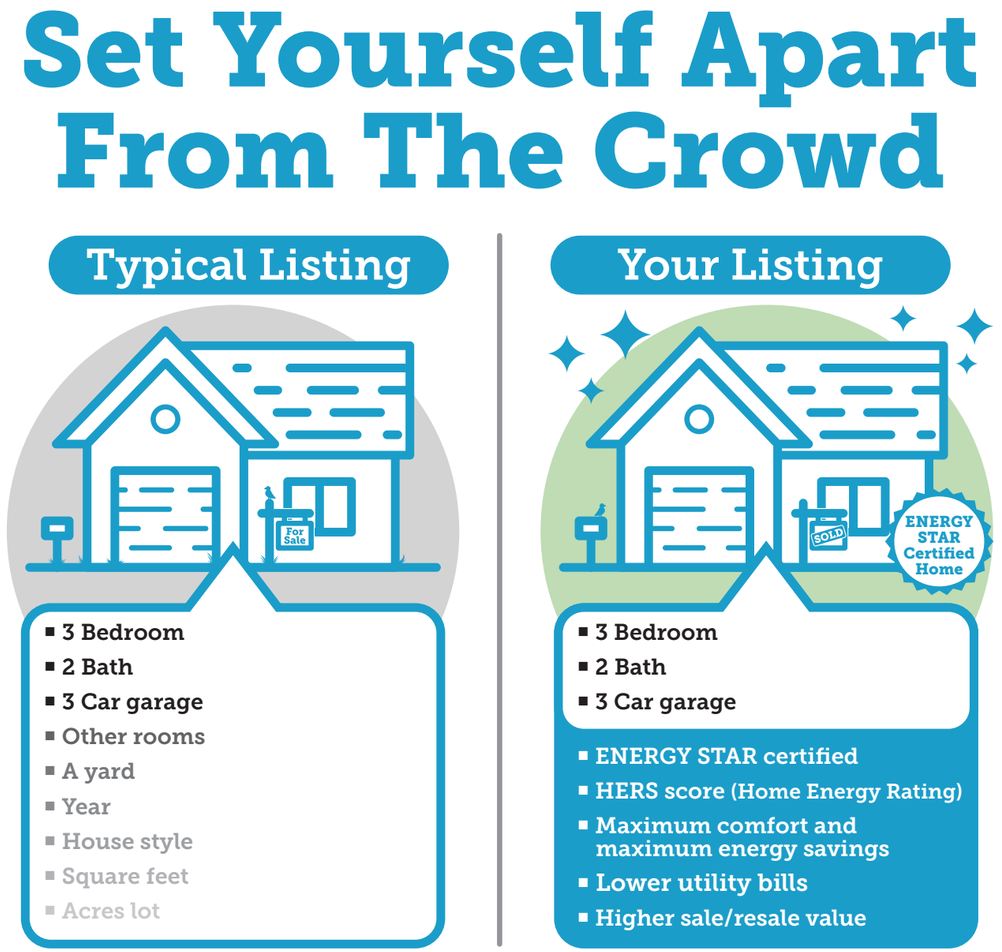

Figure 16. Builder Mailing

Contractors

HVAC contractors continue to be valued partners in energy efficiency outreach efforts. Intermountain attempted to keep participation by customers and contractors simple and easy to implement. One request Intermountain received frequently in the first program year was to create an online application. During the 2019 program year, Intermountain Gas implemented an online form to make the application process easier for both the customer and the installer.

The Company placed equal importance on accessibility of the online application from both a desktop computer and mobile device. This allowed contractors to assist customers with applications while on site with the customer, from the office or anywhere. The Company created an online application using a platform already purchased and supported by the Company and used by other departments. IGC customized the online form for energy efficiency rebate applications.

Intermountain tried to be thoughtful about the design, testing, and implementation of the online form to avoid hampering current operations and to ensure enhanced accessibility. On January 15, 2019, Intermountain recruited three heating dealers that consistently submitted rebates to participate in testing the online application. Once the online application passed thorough testing and troubleshooting, it was launched in September 2019 and added to the Contractor Portal. Added features such as multiple appliance entry or a Whole Home rebate application will be explored in the future.

As the EE Program grew, a major priority was to keep the rebate submittal process simple. In support of this priority, the Company added an HVAC Contractor Portal to the IGC Energy Efficiency website. This portion of the page contains all the information that a participating contractor would need to navigate the rebate Program. The three different sections of the Portal are: Program Overview, News, and Rebate Application Forms. To access the Contractor Portal the contractor must submit an email address and company name. After submission, an automatically generated password is sent to the contractor allowing access to the Portal and use of the available resources. This content is password protected as an exclusive benefit to contractors participating in the EE Program. This process of submitting an email address and company name allows the EE staff to track the number of contractors that have logged into the Contractor Portal. From the time the Portal was launched on September 12th, 2019 to the end of the 2019 program year, twenty-three different contractors accessed the Portal.

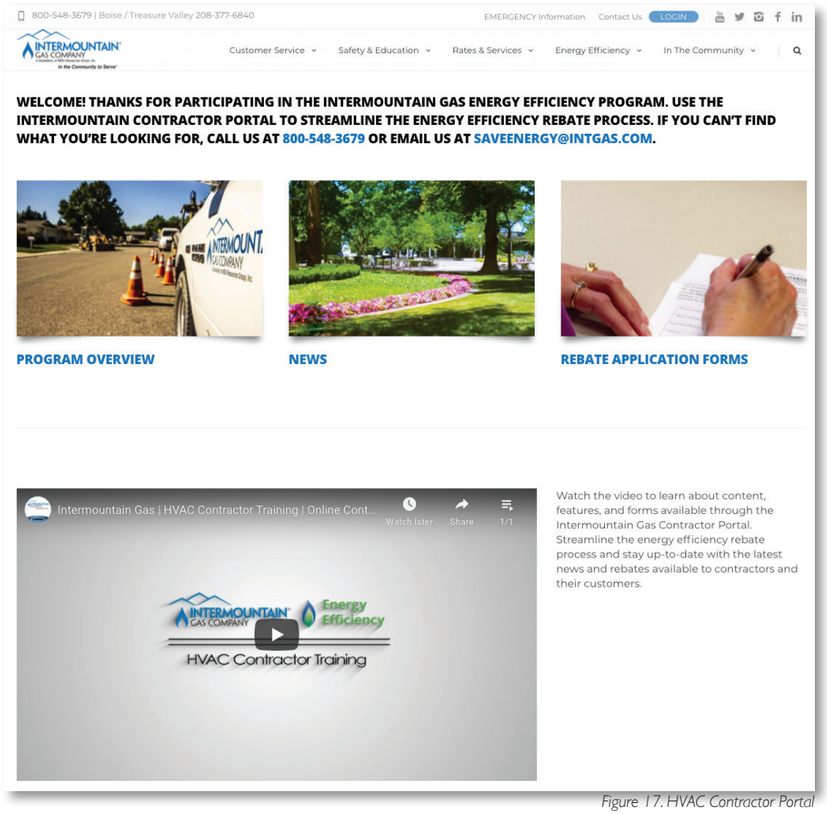

Figure 17. HVAC Contractor Portal

To launch the Contactor Portal, the EE staff partnered with the Division of Building Safety (DBS) and hosted an HVAC Contractor training. The event was held at DBS headquarters because of its central location between IGC's Nampa and Boise districts which allowed contractors from both districts to attend. Intermountain Gas Energy Service Representatives from the two districts also attended this event to network with contractors in attendance and to support, promote and assist contractors using the Portal. This training covered how to access the Portal and use it to expedite the rebate application submittal process. EE staff received positive feedback from contractors and received several requests to access the Portal during the training event. The Company anticipates scheduling future contractor trainings during the early spring and early fall seasons to maximize contractor attendance by avoiding the peak HVAC busy times of winter and summer. The Company posted the video recording of the September 2019 HVAC training on the Contractor Portal as a contractor training resource accessible at any time.

Figure 18. HVAC Training Invitation

To encourage ENERGY STAR participation, the Company offered an ENERGY STAR HVAC course subsidy to contractors during the 2019 EE Program year. This was a $900 online course run by a third-party company that, upon completion, would certify HVAC contractors meeting ENERGY STAR HVAC requirements. To be eligible for the $300 subsidy, the contractor had to pre-register with EE staff to participate in the course, and contractors were required to provide their certificate upon achieving certification. The Company promoted the course subsidy to contractors on four different occasions: in a mailing, via email, posting notice on the Contractor Portal, and sending the information to all the home energy raters across the Company's service territory. As a result of this outreach, some contractors requested more information, four signed up for the course, and one finished the course, became certified, and received the course subsidy. The Company made this offering available to contractors to increase the number of qualified ENERGY STAR HVAC contractors and make the ENERGY STAR build process easier for certified builders.

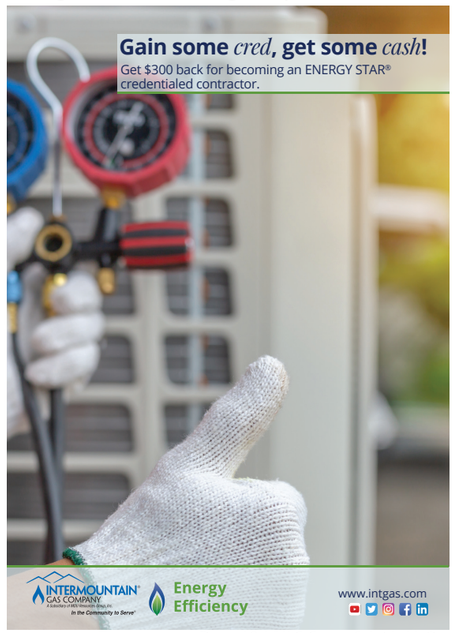

Figure 19. HVAC Course Subsidy Mailing

Other contractor specific EE Program outreach included emailing Program updates to all participating contractors, working with individual contractors to resolve issues, and reaching out to contractors that had rejected rebate applications. EE staff made a concerted effort to reach out to contractors identified on applications that were rejected because the appliance did not meet the required minimum efficiency. Contractors were provided Program information and appliance rebate requirements to help resolve any misunderstandings or further confusion regarding minimum required efficiencies. These individual interactions with contractors (including sales teams, installers, and new construction specialists) also provided opportunities to promote the EE Program, answer questions and collect feedback from contractors.

Home Energy Raters

In the peak of the 2019 summer building season, EE staff went on a ride-along with an energy rater to see firsthand the rating process and gain a better understanding of the details of day-to-day operations. This ride-along also allowed EE staff to answer questions about IGC's rebate Program and inform the energy rater of new Program opportunities. During the 2019 program year, EE staff reached out to all raters in the Company's service territory with information about the ENERGY STAR HVAC Course subsidy (see "Contractors" section above) and asked them to spread the news of this opportunity to HVAC contractors in their areas. Home energy raters have been great partners in raising awareness about the EE Program and answering specific technical questions that builders have regarding the ENERGY STAR building process.

Special Partnership Projects

In 2018, Intermountain embarked on a special partnership with Boise Valley Habitat for Humanity (BVHFH), an organization dedicated to "a world where everyone has a decent place to live." Not only was BVHFH committed to bring people together to "build homes, community and hope," but as an organization, it recognized the role of home energy efficiency in building quality, affordable homes. Intermountain partnered with BVHFH to highlight its mission to provide affordable housing, while also raising awareness about home energy efficiency, by documenting the build process of the BVHFH ENERGY STAR Certified Home from start to finish.

The partnership started with an official groundbreaking in October 2018 which included community partners like the Mayor of the city of Meridian, the Meridian Chamber of Commerce, BVHFH board members and volunteers, and executive leadership of the Company. Intermountain employees and members of the Building Contractors Association of Southwest Idaho participated as volunteer build teams.

One of the major challenges of an energy efficient home is that it does not look different from any other home. Most of the things that make a home ENERGY STAR certified take place during the construction process. To help both builders and consumers alike better understand the difference of an ENERGY STAR home, IGC brought people to the build site, without actually bringing them to the build site, by gaining permission to video document the build process of the BVHFH ENERGY STAR home. Each video highlighted a different aspect of an ENERGY STAR certified home, including:

- High efficiency heating and cooling
- Complete thermal enclosure
- Water protection
- Efficient lighting and appliances
- Independent inspections and testing

This series of educational videos now lives on the Intermountain's YouTube channel and on the Company's website under the web page titled "The ENERGY STAR Difference." The videos can be accessed by anyone interested in learning more about the benefits of an ENERGY STAR certified home. The web page received 1,560 views in 2019.

Proper air sealing of a home is important in building an energy efficient home. According to an air sealing study conducted by then DBS manager Jerry Peterson, with proper technique, no additional investment of time or materials is required to achieve superior results. At the critical time of air sealing in the BVHFH build, BVHFH allowed Jerry Peterson to use the Habitat home to demonstrate proper air sealing technique. Intermountain filmed this demonstration to produce a 15-minute instructional video. This video is now an instructional resource for all builders and contractors to access on the Intermountain YouTube channel.

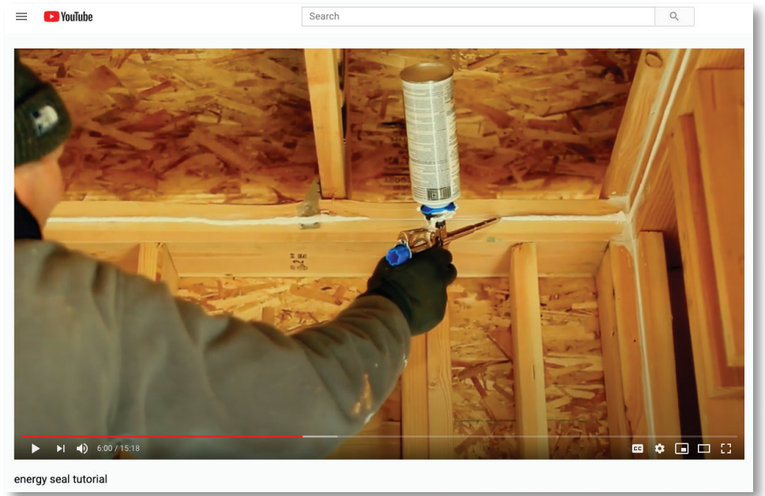

Figure 20. IGC YouTube Channel Air Sealing Tutorial

Figure 21. BVHFH Ribbon Cutting Ceremony

The Meridian Chamber of Commerce invited Intermountain to be the keynote presenter at its monthly luncheon to talk about and promote both home energy efficiency and the BVHFH Energy Star certified home partnership. The community was invited to celebrate in the official ribbon-cutting ceremony and for the first time in BVHFH history, the home was open for the community to tour.

The BVHFH ENERGY STAR certified home was completed in April 2019. BVHFH and Intermountain celebrated the completion of this home appropriately on Earth Day 2019. The grand opening event was promoted by Intermountain, BVHFH, the Building Contractors Association of Southwest Idaho and The Meridian Chamber of Commerce through save the date cards, Facebook, and posts on the Chamber calendar of events.

Figure 22. BVHFH ENERGY STAR Certified Home Handout

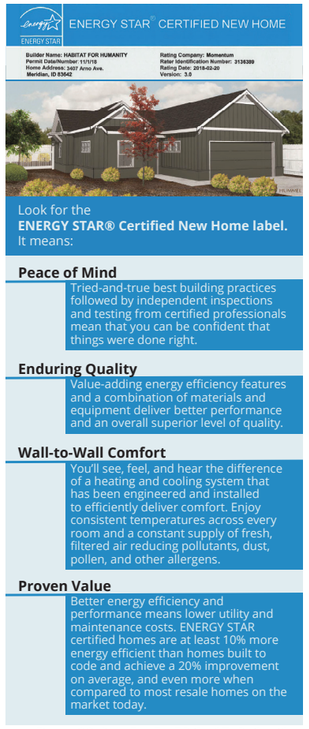

Figure 23. BVHFH ENERGY STAR Certified Home Handout

BVHFH also hosted open house weekends to allow the community to tour the ENERGY STAR home outside of the one-day celebration. Intermountain had an information table in the garage, directly in front of the home certification labels, and provided information specific to the energy efficiency attributes of the BVHFH ENERGY STAR certified home.

After the success of the ENERGY STAR certified home, Intermountain continued to partner with BVHFH to promote the need for affordable housing and the Intermountain Energy Efficiency Program. IGC employees volunteered in the BVHFH "Village of Playhouses" event. Participating corporate teams were provided a playhouse kit to build and decorate. Ultimately, the playhouses were put on display at The Village Shopping center in Meridian, Idaho. All playhouses were raffled off with all proceeds benefiting BVHFH. Intermountain used this opportunity to again focus on responsible use of resources. The children's playhouse channeled the messaging of Dr. Seuss' "The Lorax," as the theme of the playhouse. The team incorporated energy saving tips from the EPA's "Join the Lorax," themed children's resources into the design.

In an additional effort to promote energy efficiency with the community at large, Intermountain Energy Efficiency provided a sponsorship to the 2019 St. Jude Dream Home Giveaway home. The Dream Home Giveaway consists of numerous supporters collaborating to underwrite and build a home that is raffled off with all proceeds benefitting the St. Jude Children's Research Hospital. The home is open for the community to tour weeks before and after raffle tickets go on sale, and tickets typically sell out in hours, if not minutes, due to the overwhelming popularity of the giveaway and support for the mission of St. Jude Children's Research Hospital.

The 2019 Dream Home earned the Intermountain Whole Home rebate and was built by an ENERGY STAR certified builder that regularly redeems the Intermountain Whole Home rebate. Intermountain's primary purpose in sponsoring this event was to showcase the energy efficiency features of this home, however, the Company experienced challenges in getting its messaging out with all the other promotions surrounding the Dream Home event. The Company learned two important lessons when it comes to messaging: placement and fit. When evaluating promotional opportunities, the Company learned that it is important to evaluate whether an energy efficiency message will stand out among the other messaging surrounding an event. Additionally, messaging should match the overall promotion. In this case, "home energy efficiency" and "luxury," do not necessarily equate with each other. While a luxury home is often an energy efficient home, home energy efficiency is not just for a dream home, it is for every home.

Figure 24. BVHFH Village of Playhouses

Intermountain Gas Company
Stakeholder Input
2019

The Energy Efficiency Stakeholder Committee met in Twin Falls in May 2019 for a special presentation by Dunsky Energy Consultants (Dunsky). Dunsky provided an overview of the CPA study, study methodology and preliminary results, followed by question and answer session and discussion. The Company also provided a program update.

At the October 9th meeting in Boise, Intermountain sought input regarding the plan to conduct the first Program Evaluation, Measurement and Verification (EM&V) study. The Committee discussed both the necessity and scope of both an impact evaluation and process evaluation. Based on the financial outlay of a comprehensive EM&V study, and that only two measures contributed the largest portion of therm savings, the Company proposed an impact study of just the furnace measure to verify savings. The Committee discussed whether the Quality Assurance (QA) provided by RESNET for both HERS rated homes and ENERGY STAR certification could be used in lieu of an impact evaluation of the whole home rebate. The Stakeholder Committee decided that while RESNET QA provides oversight of actual home certifications and energy efficiency scores, an impact evaluation would be required to verify therm savings. This led to a robust discussion about the current HERS threshold for the Whole Home rebate and it was suggested the Company explore a tiered approach to the HERS threshold. The Company plans to explore this in the EM&V study.

The meeting also provided an opportunity to review preliminary proposed changes to the residential rebate offering based on the CPA findings. Although therm saving potential was identified in the study, Intermountain will need to further examine the feasibility of specific additional rebate offerings, based on the administration requirements and subsequent impact on cost-effectiveness.

Finally, the meeting provided a brief overview and discussion of Intermountain's participation in the Emerging Technology Program with the Gas Technology Institute, as well as a mini tour and discussion of Intermountain's past participation as a cold-climate test site in the development of rooftop natural gas heat pump technology.

Intermountain will continue to work with the Energy Efficiency Stakeholder Committee to revise the current residential offering and explore additional Program offerings to present to the Commission for final approval. Likewise, the Company will also work with the Committee to design a commercial offering, based on the CPA study, to capture additional therm savings.

market transformation

Intermountain Gas Company
Market Transformation
2019

Energy Efficiency: Investing Today's Savings for an Energy Efficient Future

Intermountain's Energy Efficiency rebate offering is a "traditional resource acquisition program…designed to garner savings quickly with a straightforward effectiveness metric." (Market Transformation: Moving Beyond Traditional Energy Efficiency Programs to Cement Change- Jan Harris, Utility Dive, July 2, 2019). When it comes to saving energy Intermountain isn't just focused on today. In fact, Intermountain is investing energy savings of today to secure an energy efficient future.

Intermountain has long been a member of the Gas Technology Institute (GTI), an organization committed to "turn technology and insights into solutions that create exceptional value for customers in natural gas." Over the years, the Company participated in collaborative programs facilitated by GTI, such as the member group Operations Technology Development (OTD) and the Utilization Technology Development (UTD). OTD works to develop, test and implement new technologies related to reliable operation of the infrastructure, while UTD, is a member group formed to conduct near-term applied research to develop, test and deploy energy efficient end-use technologies. Intermountain also participates in the Emerging Technology Program (ETP) facilitated by GTI. ETP is a member driven committee "to accelerate the market introduction and acceptance of new emerging technologies to feed utility energy efficiency programs."

The work of ETP is focused on research and development to optimize technology before commercialization and has been instrumental in getting natural gas technologies to the point of commercialization. Gas Heat Pump technology is just one of several energy efficiency key initiatives of GTI. Gas heat pump technology is particularly exciting from an energy efficiency standpoint because it can achieve efficiencies of over 100%. The latest round of gas-fired heat pump water heaters being tested meet ultra-low emission requirements, have twice the efficiency of standard water heaters, and offer lower operating costs and cost of ownership.

GTI and 15 utility sponsors, including Intermountain, most recently participated in the gas heat pump roadmap (Roadmap), to "identify opportunities, information gaps, impediments and strategies to accelerate the commercialization and market acceptance of gas heat pumps in North America." A large-scale residential gas heat pump water heater demonstration project is currently underway to include a range of field, laboratory and market activities. More information about this project is available at https://www.gti.energy/enhancing-efficiency-in-space-conditioning-and-water-heating/.

While lab testing of equipment and identifying market barriers and impediments in market acceptance of the gas heat pump is vital to the commercialization of gas heat pumps, identifying these crucial challenges is merely the first step towards true market acceptance and integration. The successful launch of gas heat pump technology will be instrumental in ensuring continued gains in gas appliance energy efficiency. To avoid the fate of other emerging energy technologies that have taken as long as 10 years to achieve marginal market acceptance, Intermountain joined the North American Gas Heat Pump Collaborative (Collaborative). As a charter member of the Collaborative, Intermountain will have an equal voice at the table, alongside 14 other utilities which combined represent 27% of North American gas households. Representation of this magnitude will be important to engage manufacturers, distributers and suppliers in producing new energy efficient natural gas equipment to benefit our customers.

Building on the foundation of work established by the Roadmap, the Collaborative was created to accelerate the market adoption of natural gas heat pump technologies.

The heat pump technologies for both natural gas space heat and combined space and water heat will be the focus of the organization. To begin, the Collaborative hired consultant Resource Innovations (RI) to create the organizational structure to facilitate the strategic activities of the Collaborative such as manufacturer and distributor engagement, retailer engagement, installer training and support, and engagement with partners to change national standards. RI guided the development of the board, long-term governance committee and operations committee to ensure the independence and sustainability of the Collaborative as an organization. For the first year, RI will also facilitate the initiatives of the two main gas heat pump working groups to define priorities, activities, funding of projects and timelines.

The Energy Efficiency Program invested $11,000 as a charter member of the Collaborative in 2019. In addition to capturing energy savings today by providing incentives to acquire savings quickly, this investment will secure an energy efficient future for our customers by accelerating the production, availability and adoption of high efficient equipment able to deliver new energy savings and lower energy bills, developing least cost methods of reducing greenhouse gasses, and preserving fuel choice for our customers today and tomorrow.

Intermountain Gas Company
The Future
2019

The outcomes of two separate issues will potentially have the greatest impacts on the future of the Program.

In Order No. 34536, issued in Case No. INT-G-19-04, the Idaho Public Utilities Commission deemed 2017-2018 EE Program expenses as prudently incurred. Additionally, the Commission recommended that Intermountain work with the Stakeholder Committee to review the avoided cost calculation and develop an avoided cost methodology. A Stakeholder Subcommittee (Subcommittee) workgroup was formed to develop an avoided cost calculation methodology. The Subcommittee agreed on a methodology for calculating avoided costs related to commodity and transportation costs. At the time of this writing, the group had not agreed upon a way to quantify avoided distribution costs. While the new avoided cost methodology makes cost-effectiveness tests more challenging, the Subcommittee conducted a thorough review and will continue to work toward a methodology that includes avoided distribution costs. Until such time the avoided cost calculation developed by the committee will be used for cost-effectiveness testing and program planning.

The Intermountain Energy Efficiency Program will begin 2020 by commissioning an EM&V study. The study will include an impact evaluation to verify savings of the two largest therm saving measures: the Whole Home incentive and the furnace incentive. Additionally, a process evaluation will be conducted to review Program administration, implementation and delivery as well as customer satisfaction and market response. Intermountain will work with the Stakeholder Committee to review the study results in conjunction with the CPA study to determine refinements and additions to the current residential offering.

Evaluation and recommendation on program delivery and customer satisfaction from the first completed EM&V study, and an agreed upon avoided cost calculation will set the stage for the next step in the evolution of the Program: developing a program offering for commercial customers. Based on the conservation potential identified in the CPA, Intermountain will work with the Stakeholder Committee on developing a commercial energy efficiency program.

Although certain outcomes of Program review are at the time of this writing unknown, one thing is sure: Intermountain is committed to continuous improvement to help customers save energy and money. The Company embraces the enthusiasm customers have shown for energy efficient solutions and will continue to put the best solutions forward to meet those needs.