

2020 ANNUAL REPORT

SUPPLEMENT 1: 2020 COST-EFFECTIVENESS



Introduction

Intermountain's Energy Efficiency Program (EE Program) offers individual customers a way to lower their usage and monthly energy bills. It additionally benefits all customers by ensuring resources are used efficiently which delays the need for expensive system upgrades and additional supply contracts, thereby keeping costs low for everyone. Cost-effectiveness testing is vital to ensuring the Company's EE Program is in fact a least-cost resource, and is integral to the design, implementation and success of the EE Program.

Intermountain initially launched the EE Program as a modest residential rebate offering. The original program allowed Intermountain to gauge customer interest in installing high-efficiency natural gas equipment and served as a starting point to refine and further develop cost-effective, relevant program offerings.

Following the launch of the EE Program, Intermountain commissioned an independent 3rd party to conduct a comprehensive Conservation Potential Assessment (CPA) to quantify energy efficiency resources available within the Company's service territory, to support both short-term energy efficiency planning and long-term resource planning activities, and to provide the most up-to-date market data for both the residential and commercial sectors. This study serves as the basis for modifications to current rebates that underperformed and was used to design new rebates and programs.

To improve the two most popular rebates, Intermountain also commissioned an Evaluation, Measurement and Verification (EM&V) study. The EM&V study provided data on actual therm savings related to the furnace and whole home rebates, as well as insights to be used to further refine and improve the EE Program.

Cost-Effectiveness and Methodology

Intermountain's objective is for all rebates is to have benefit/cost ratios greater than one for the Utility Cost Test (UCT). 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. Rebates undergo cost tests at several stages: preliminary design, implementation, and an annual review. For a different perspective, cost-effectiveness of rebates is also evaluated based on the customer's perspective using avoided supply costs, program administration costs and net participant costs, or the Total Resource Cost Test (TRC). However, the TRC is not the primary cost test used for decisions regarding the inclusion or exclusion of rebate offerings. In calculating the UCT and TRC, Intermountain

relies on the calculations outlined in the *California Standard Practice Manual* and the National Action Plan for Energy Efficiency's (NAPEE) *Understanding Cost Effectiveness of Energy Efficiency Programs: Best Practices, Technical Methods, and Emerging Issues for Policy-Makers*.

Rebate characteristics such as estimated useful life, deemed therm savings, and incremental cost used for cost-effectiveness testing are provided by the CPA study for all rebates, other than the furnace and whole home rebates. Estimated therm savings for the furnace and whole home rebates are based on the EM&V impact evaluation. The rebate count used in the cost-effectiveness calculation is the actual number of rebates paid for the program year.

Cost-effectiveness of EE Program rebates are reviewed annually. The results are reported in the annual report and reviewed with the Energy Efficiency Stakeholder Committee (EESC). Rebate performance, cost-effectiveness, market insights, and lessons learned are taken into consideration when deciding whether to continue, revise or retire a rebate.

Assumptions

In calculating cost-effectiveness for each rebate and for the program as a whole, the Company relied upon several assumptions as well as studies provided by independent third-party sources. The section below discusses the key inputs used in calculating cost-effectiveness and the assumptions and sources used.

Energy Savings

Energy savings for each rebate are calculated by multiplying each rebate's gross annual therm savings by the total number of rebates issued. The energy savings are then valued based on the Company's Avoided Cost. The Avoided Cost is used both to economically evaluate the present value of the therms saved over the life span of the measure and to track the performance of the program as a whole. A more in-depth discussion of the Avoided Cost calculation and its components can be found in Case No. INT-G-21-03, Exhibit No. 1.

Rebate Costs

Total rebate costs are calculated by multiplying the value of each rebate by the number of rebates issued for the year.

Equipment & Installation Cost

The incremental equipment and installation costs are inputs to the TRC cost test and were provided by the CPA. These costs represent the incremental purchase and installation costs the participant will pay between a base case measure and a higher efficient alternative. These costs are not offset by the amount of the rebate received by the participant.

Program Delivery & Administration

Program delivery and administration costs are allocated to each rebate based on the percentage of the total annual portfolio of therm savings that rebate represents. Any cost incurred solely for a particular rebate will be directly assigned to that rebate.

Real Discount Rate

The real discount rate is used to account for the time-value of money and accurately compare costs. The real discount rate is based on the Company's tax-affected weighted average cost of capital. The calculation of the real discount rate can be found in Case No. INT-G-21-03, Exhibit No. 1, Page 17.

Inflation Rate

An inflation assumption is used in cost-effectiveness testing to convert nominal, forward-looking costs into real dollars. The company assumes an inflation rate of 2.0%.

Net-to-Gross

Net-to-gross (NTG) is a ratio that adjusts the therm savings of rebates and/or programs, so they solely reflect energy efficiency gains that are the direct result of energy efficiency programs. The NTG deducts therm savings resulting from free-ridership, or savings that would have occurred regardless of the program. It also increases therm savings to account for spillover, or savings that occurred but were not counted by the program, as well as therm savings resulting from market transformation. Unfortunately, estimates of net savings require making sweeping assumptions to model a theoretical scenario where the EE Program did not exist. Because of the difficulty in accurately calculating NTG percentages, the Company used an NTG of 100% for all rebate and program cost-effectiveness analysis. Intermountain also performs a sensitivity analysis for each rebate that determines the minimum allowable NTG ratio where the rebate would remain (or become) cost effective under the Utility Cost Test.

Results

As stated previously, Intermountain uses the UCT as the primary measure for determining cost-effectiveness for each rebate offering and for the entire program. The EM&V evaluation was completed during the 2020 Program year. For the impact evaluation, ADM applied two evaluation methodologies to the Whole Home rebate and the Furnace rebate, simulation analysis and billing analysis. The two approaches yielded widely disparate results. For both rebates, the simulation analysis produced post-analysis therm savings estimates that appeared to be overstated, exceeding even the CPA therm savings estimate for the measure. On the other hand, the post-analysis savings estimate from the billing analysis appeared to understate savings, because the billing analysis did not isolate for changes in household behavior, equipment, or occupancy, and included factors other than the impact of improved equipment efficiency, resulting in post-analysis therm savings far less than estimated.

To fully evaluate the implications of each method used in the evaluation, the Company performed cost-effectiveness testing using the post-analysis savings of both the simulation analysis and the billing analysis. Two UCT ratios, UCT Simulation and UCT Billing, are provided for the portfolio and for each incentive, as well as TRC Simulation and TRC Billing. Under the simulation analysis, the Program was found to be cost-effective with a UCT of 1.5, but not cost-effective under the billing analysis evaluation with a UCT of 0.5. Due to the disparity in the results of these two approaches, the Company significantly revised the Program offering to more accurately reflect therm savings. Intermountain specifically implemented evaluation recommendations that would help avoid under reporting or overstating therm savings. These changes took effect April 1, 2021.

EM&V Schedule

The Company prepared a proposed EM&V schedule through 2024. The dates on the schedule indicate the final year of data that will be included in the study. For example, the initial study that was conducted in 2020 used data through the year ended 2019.

The schedule may be amended depending on the Company's ability to collect enough data over the time frames listed to generate a study that will provide statistically significant insights. For example, the Company will review the number of rebates issued and the ability to measure usage over several full heating seasons for heating equipment as some of the metrics used to determine the actual timing of EM&V studies. The Company will also consult with the EESC on actual EM&V study timing. In the

interim years between formal, third-party evaluation, the Company will monitor, evaluate, and update program incentives with the best data available.

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Residential Energy Efficiency Program

2020 UCT Results - Simulation To Billing Comparison

Rebate	Simulation Analysis				Billing Analysis					
	Therm Savings	Annual Therm Savings	UCT Benefits	UCT Costs	UCT Ratio	Therm Savings	Annual Therm Savings	UCT Benefits	UCT Costs	UCT Ratio
Whole Home	274	420,864 \$	2,998,117 \$	2,265,522 \$	1.3	58	88,381 \$	629,605 \$	2,119,266 \$	0.3
Combi Radiant Heat System	113	1,017 \$	6,523 \$	10,020 \$	0.7	113	1,017 \$	6,523 \$	12,177 \$	0.5
Furnace	134	367,696 \$	2,286,290 \$	1,329,370 \$	1.7	56	153,911 \$	957,000 \$	1,441,153 \$	0.7
70% Fireplace	10	130 \$	808 \$	1,430 \$	0.6	10	130 \$	808 \$	1,706 \$	0.5
80% Fireplace	76	- \$	- \$	- \$	-	76	- \$	- \$	- \$	-
Water Heater	38	228 \$	1,050 \$	529 \$	2.0	38	228 \$	1,050 \$	1,012 \$	1.0
Tankless Water Heater	65	14,885 \$	106,037 \$	49,287 \$	2.2	65	14,885 \$	106,037 \$	80,844 \$	1.3
Program Total		804,820 \$	5,398,825 \$	3,656,158 \$	1.5		258,552 \$	1,701,023 \$	3,656,158 \$	0.5

INTERMOUNTAIN GAS COMPANY

Residential Energy Efficiency Program

2020 TRC Results - Simulation To Billing Comparison

Rebate	Simulation Analysis				Billing Analysis					
	Therm Savings	Annual Therm Savings	TRC Benefits	TRC Costs	TRC Ratio	Therm Savings	Annual Therm Savings	TRC Benefits	TRC Costs	TRC Ratio
Whole Home	274	420,864 \$	2,998,117 \$	3,674,034 \$	0.8	58	88,381 \$	629,605 \$	3,527,778 \$	0.2
Combi Radiant Heat System	113	1,017 \$	6,523 \$	32,718 \$	0.2	113	1,017 \$	6,523 \$	34,875 \$	0.2
Furnace	134	367,696 \$	2,286,290 \$	3,955,378 \$	0.6	56	153,911 \$	957,000 \$	4,067,161 \$	0.2
70% Fireplace	10	130 \$	808 \$	1,521 \$	0.5	10	130 \$	808 \$	1,797 \$	0.4
80% Fireplace	76	- \$	- \$	- \$	-	76	- \$	- \$	- \$	-
Water Heater	38	228 \$	1,050 \$	2,569 \$	0.4	38	228 \$	1,050 \$	3,052 \$	0.3
Tankless Water Heater	65	14,885 \$	106,037 \$	427,137 \$	0.2	65	14,885 \$	106,037 \$	458,694 \$	0.2
Program Total		804,820 \$	5,398,825 \$	8,093,357 \$	0.7		258,552 \$	1,701,023 \$	8,093,357 \$	0.2

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Residential Energy Efficiency Program

Whole Home - 2020 Cost-Effectiveness Results

Benefits

Energy Savings	Simulation	Billing
Annual Energy Savings (therms)	420,864	88,381
Lifetime Energy Savings (therms)	10,521,600	2,209,536
Present Value of Energy Savings	\$ 2,998,117	\$ 629,605

Cost-Effectiveness Tests

Test	Scenario	Benefits	Costs	Ratio
Utility Cost	Simulation	\$ 2,998,117	\$ 2,265,522	1.3
Total Resource Cost	Simulation	\$ 2,998,117	\$ 3,674,034	0.8
Utility Cost	Billing	\$ 629,605	\$ 2,119,266	0.3
Total Resource Cost	Billing	\$ 629,605	\$ 3,527,778	0.2

Costs

Rebate Costs	Simulation	Billing
Rebate Amount	\$ 1,200	\$ 1,200
Rebate Count	1,536	1,536
Total Rebate Costs	\$ 1,843,200	\$ 1,843,200
Equipment & Installation Costs	Simulation	Billing
Incremental Cost Per Unit	\$ 2,117	\$ 2,117
Total Equipment & Installation Costs	\$ 3,251,712	\$ 3,251,712
Program Delivery & Administration	Simulation	Billing
Overhead Expenses ^[1]	\$ 422,322	\$ 276,066
Direct Costs	\$ -	\$ -
Total Program Delivery & Administration Costs	\$ 422,322	\$ 276,066

Equations & Assumptions

Utility Cost Test	= S x NTG ÷ (R + A)
Total Resource Cost Test	= S x NTG ÷ (I x NTG + A)
Real Discount Rate	4.68%
Inflation Rate	2.00%
Net-to-Gross (NTG)	100%
Net-to-Gross Sensitivity ^[2]	76%

NOTES

^[1]Allocated based on percentage of portfolio annual therm savings.

^[2]Minimum NTG value where rebate remains cost-effective under simulation-based UCT.

INTERMOUNTAIN GAS COMPANY

Residential Energy Efficiency Program
Furnace - 2020 Cost-Effectiveness Results

Benefits

Energy Savings	Simulation	Billing
Annual Energy Savings (therms)	367,696	153,911
Lifetime Energy Savings (therms)	7,353,920	3,078,219
Present Value of Energy Savings	\$ 2,286,290	\$ 957,000

Cost-Effectiveness Tests

Test	Scenario	Benefits	Costs	Ratio
Utility Cost	Simulation	\$ 2,286,290	\$ 1,329,370	1.7
Total Resource Cost	Simulation	\$ 2,286,290	\$ 3,955,378	0.6
Utility Cost	Billing	\$ 957,000	\$ 1,441,153	0.7
Total Resource Cost	Billing	\$ 957,000	\$ 4,067,161	0.2

Costs

Rebate Costs	Simulation	Billing
Rebate Amount	\$ 350	\$ 350
Rebate Count	2,744	2,744
Total Rebate Costs	R \$ 960,400	\$ 960,400
Equipment & Installation Costs	Simulation	Billing
Incremental Cost Per Unit	\$ 1,307	\$ 1,307
Total Equipment & Installation Costs	I \$ 3,586,408	\$ 3,586,408
Program Delivery & Administration	Simulation	Billing
Overhead Expenses ^[1]	\$ 368,970	\$ 480,753
Direct Costs	\$ -	\$ -
Total Program Delivery & Administration Costs	A \$ 368,970	\$ 480,753

Equations & Assumptions

Utility Cost Test	= S x NTG ÷ (R + A)
Total Resource Cost Test	= S x NTG ÷ (I x NTG + A)
Real Discount Rate	4.68%
Inflation Rate	2.00%
Net-to-Gross (NTG)	100%
Net-to-Gross Sensitivity ^[2]	58%

NOTES

^[1]Allocated based on percentage of portfolio annual therm savings.

^[2]Minimum NTG value where rebate remains cost-effective under simulation-based UCT.

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Residential Energy Efficiency Program

Combi Radiant Heat System - 2020 Cost-Effectiveness Results

Benefits

Energy Savings		
Annual Energy Savings (therms)		1,017
Lifetime Energy Savings (therms)		21,357
Present Value of Energy Savings	\$	6,523

Costs

Rebate Costs		
Rebate Amount	\$	1,000
Rebate Count		9
Total Rebate Costs	\$	9,000
Equipment & Installation Costs		
Incremental Cost Per Unit	\$	3,522
Total Equipment & Installation Costs	\$	31,698
Program Delivery & Administration		
Overhead Expenses ⁽¹⁾	\$	1,020
Direct Costs	\$	-
Total Program Delivery & Administration Costs	\$	1,020

Cost-Effectiveness Tests

	Benefits	Costs	Ratio
Utility Cost Test	\$ 6,523	\$ 10,020	0.7
Total Resource Cost Test	\$ 6,523	\$ 32,718	0.2

Equations & Assumptions

Utility Cost Test	= S x NTG + (R + A)
Total Resource Cost Test	= S x NTG + (I x NTG + A)
Real Discount Rate	4.68%
Inflation Rate	2.00%
Net-to-Gross (NTG)	100%
Net-to-Gross Sensitivity ⁽²⁾	154%

NOTES

⁽¹⁾Allocated by simulation-based annual therm saving results.

⁽²⁾Minimum NTG value where rebate remains cost-effective under UCT.

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Residential Energy Efficiency Program

70% Fireplace - 2020 Cost-Effectiveness Results

Benefits

Energy Savings			
Annual Energy Savings (therms)			130
Lifetime Energy Savings (therms)			2,600
Present Value of Energy Savings	\$	\$	808

Costs

Rebate Costs			
Rebate Amount	\$		100
Rebate Count		R	13
Total Rebate Costs	\$	R	1,300

Equipment & Installation Costs

Incremental Cost Per Unit	\$	I	\$	107
Total Equipment & Installation Costs	\$	I	\$	1,391

Program Delivery & Administration

Overhead Expenses ⁽¹⁾	\$			130
Direct Costs	\$			-
Total Program Delivery & Administration Costs	\$	A	\$	130

Cost-Effectiveness Tests

	Benefits	Costs	Ratio
Utility Cost Test	\$ 808	\$ 1,430	0.6
Total Resource Cost Test	\$ 808	\$ 1,521	0.5

Equations & Assumptions

Utility Cost Test	= S x NTG + (R + A)
Total Resource Cost Test	= S x NTG + (I x NTG + A)
Real Discount Rate	4.68%
Inflation Rate	2.00%
Net-to-Gross (NTG)	100%
Net-to-Gross Sensitivity ⁽²⁾	177%

NOTES

⁽¹⁾Allocated by simulation-based annual therm saving results.

⁽²⁾Minimum NTG value where rebate remains cost-effective under UCT.

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Residential Energy Efficiency Program
Water Heater - 2020 Cost-Effectiveness Results

Benefits

Energy Savings			
Annual Energy Savings (therms)			228
Lifetime Energy Savings (therms)			2,964
Present Value of Energy Savings	\$	\$	1,050

Costs

Rebate Costs			
Rebate Amount	\$		50
Rebate Count			6
Total Rebate Costs	\$	\$	300

Equipment & Installation Costs

Incremental Cost Per Unit	\$		390
Total Equipment & Installation Costs	\$	\$	2,340

Program Delivery & Administration

Overhead Expenses ⁽¹⁾	\$		229
Direct Costs	\$		-
Total Program Delivery & Administration Costs	\$	\$	229

Cost-Effectiveness Tests

	Benefits	Costs	Ratio
Utility Cost Test	\$ 1,050	\$ 529	2.0
Total Resource Cost Test	\$ 1,050	\$ 2,569	0.4

Equations & Assumptions

Utility Cost Test	= S x NTG + (R + A)
Total Resource Cost Test	= S x NTG + (I x NTG + A)
Real Discount Rate	4.68%
Inflation Rate	2.00%
Net-to-Gross (NTG)	100%
Net-to-Gross Sensitivity ⁽²⁾	50%

NOTES

⁽¹⁾Allocated by simulation-based annual therm saving results.

⁽²⁾Minimum NTG value where rebate remains cost-effective under UCT.

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Residential Energy Efficiency Program

Tankless Water Heater - 2020 Cost-Effectiveness Results

Benefits

Energy Savings		
Annual Energy Savings (therms)		14,885
Lifetime Energy Savings (therms)		372,125
Present Value of Energy Savings	S \$	106,037

Costs

Rebate Costs		
Rebate Amount	\$	150
Rebate Count		229
Total Rebate Costs	R \$	34,350

Equipment & Installation Costs

Incremental Cost Per Unit	\$	1,800
Total Equipment & Installation Costs	I \$	412,200

Program Delivery & Administration

Overhead Expenses ^[1]	\$	14,937
Direct Costs	\$	-
Total Program Delivery & Administration Costs	A \$	14,937

Cost-Effectiveness Tests

	Benefits	Costs	Ratio
Utility Cost Test	\$ 106,037	\$ 49,287	2.2
Total Resource Cost Test	\$ 106,037	\$ 427,137	0.2

Equations & Assumptions

Utility Cost Test	= S x NTG + (R + A)
Total Resource Cost Test	= S x NTG + (I x NTG + A)
Real Discount Rate	4.68%
Inflation Rate	2.00%
Net-to-Gross (NTG)	100%
Net-to-Gross Sensitivity ^[2]	46%

NOTES

^[1]Allocated by simulation-based annual therm saving results.

^[2]Minimum NTG value where rebate remains cost-effective under UCT.