IDAHO POWER®
An IDACORP Company

DEMAND-SIDE MANAGEMENT

2018 ANNUAL REPORT

MARCH 15 • 2019

USING ENERGY EFFICIENCY TO BALANCE OUR ENERGY NEEDS

SAFE HARBOR STATEMENT

This document may contain forward-looking statements, and it is important to note that the future results could differ materially from those discussed. A full discussion of the factors that could cause future results to differ materially can be found in Idaho Power's filings with the Securities and Exchange Commission.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

LIST OF SUPPLEMENTS

EXECUTIVE SUMMARY

Idaho Power, through its energy efficiency programs, its customer education programs, and its focus on the customer experience, fully supports energy efficiency and demand response and encourages its customers to use energy wisely.

In 2018, Idaho Power's focus was not only on the pursuit of all cost-effective energy efficiency, but also improving the customer experience. One of the highlights was added functionality to My Account, an online energy portal where a customer can register to receive notifications for high or overdue bills via text message or email. Another project was sending a Welcome Kit to customers new to Idaho Power's service. Each Welcome Kit contains four LED lightbulbs, a night light, a "welcome to the neighborhood" greeting card, and an Energy Savings Made Easy "flip book" containing tips and residential program information. Over 30,000 customers were reached with this innovative effort, starting new customers on the path to saving energy.

Another highlight of 2018 was Idaho Power being recognized with the Governor's Award for Excellence in Energy Efficiency. This award honors a single facility or organization that demonstrates a commitment to energy efficiency at all levels through programming, implementation, and promotion. Idaho Gov. C.L. "Butch" Otter presented the award to Idaho Power President and CEO Darrel Anderson during the fall meeting of the Energy Efficiency Advisory Group (EEAG).

Figure 1. Idaho Power Senior Vice President and Chief Operating Officer Lisa Grow, Idaho Governor C.L. "Butch" Otter, Idaho Power President and CEO Darrel Anderson, Idaho Power Vice President of Customer Operations and Business Development Adam Richins, and Idaho Power Customer Relations and Energy Efficiency Senior Manager Theresa Drake

Figure 2. Idaho Power's Facebook post announcing the Governor's Award

Idaho Power's portfolio of energy efficiency program energy savings remains strong, with savings of 183,378 megawatt hours (MWh) in 2018, including the estimated savings from the Northwest Energy Efficiency Alliance (NEEA). These savings represent enough energy to power over 16,000 average homes for one year in Idaho Power's service area. In 2018, the company's energy efficiency portfolio was cost-effective from both the total resource cost (TRC) test and the utility cost test (UCT) perspectives with ratios of 2.26 and 3.04, respectively. The portfolio was also cost-effective from the participant cost test (PCT) ratio, which was 2.85. The savings from Idaho Power's energy efficiency programs alone, excluding NEEA savings, was 158,412 MWh in 2018.

Idaho Power successfully operated all three of its demand response programs in 2018. The total demand response capacity from the company's programs was 382 megawatts (MW). Energy efficiency and demand response are important aspects of Idaho Power's resource planning process. Idaho Power's 2018 achievements in energy savings exceeded the annual savings target identified in Idaho Power's 2017 Integrated Resource Plan (IRP). On a cumulative basis, the company's energy savings have exceeded the IRP targets every year since 2002.

Total expenditures from all funding sources of demand-side management (DSM) activities was $44 million in 2018. DSM program funding comes from the Idaho and Oregon Riders, Idaho Power base rates, and the annual power cost adjustment (PCA). The company's demand response incentives are recovered through base rates and the annual PCA in Idaho, while Oregon demand response incentives are funded through the Oregon Rider.

In 2018, Idaho Power continued to expand the reach and frequency of its residential energy efficiency campaign with digital and print marketing, including an increase in social media activity. The company also continued promoting the three Commercial and Industrial (C&I) Energy Efficiency Program options as a single program.

Idaho Power uses stakeholder input to enhance its programs. The company met regularly with EEAG and individual customers seeking input on program improvement. To find growth in the program portfolio, the company relied on its Program Planning Group (PPG) that was initiated in 2014, NEEA's Regional Emerging Technology Advisory Committee (RETAC), and E Source resources. Additionally, Idaho Power continued to refine its program processes through evaluations, customer surveys, and research to make it easier for its customers to participate.

In 2018, Idaho Power continued to distribute Energy-Saving Kits (ESK) at no cost to customers on request. By the end of the year, 44,691 ESKs were shipped to customer homes: 18,383 kits to homes with electric water heaters and 26,308 to homes with alternate-source water heaters. In 2018, Idaho Power developed an ESK for commercial customers, distributing over 1,600 kits to small commercial customers in Idaho and Oregon.

This *Demand Side Management 2018 Annual Report* provides a review of the company's DSM activities and finances throughout 2018 and outlines Idaho Power's plans for future DSM activities. This report also satisfies the reporting requirements set out in the Idaho Public Utilities Commission's (IPUC) Order Nos. 29026 and 29419. Idaho Power will provide a copy of the report to the Public Utility Commission of Oregon (OPUC) under Oregon Docket Utility Miscellaneous (UM) No. 1710.

INTRODUCTION

Idaho Power, through its energy efficiency programs, its customer education programs, and its focus on the customer experience, fully supports energy efficiency and demand response and encourages its customers to use energy wisely.

Energy efficiency and demand response provide economic and operational benefits to the company and its customers; in 2018, Idaho Power continued to pursue all cost-effective energy efficiency across its service area. Idaho Power focuses on the customer experience when providing information and programs that ensure customers have opportunities to learn about their energy use, how to use energy wisely, and participate in programs.

This report focuses on Idaho Power's demand-side management (DSM) activities and results for 2018 and previews planned activities for 2019. The appendices provide detailed information on the company's DSM activities and detailed financial information from for 2018. *Supplement 1: Cost-Effectiveness* provides detailed cost-effectiveness data and *Supplement 2: Evaluation* provides copies of Idaho Power's evaluations, reports, and research conducted in 2018. *Supplement 2: Evaluation* includes the *Historical DSM Expense and Performance* report (formerly Appendix 4) which details DSM activities and financial information from 2002 to 2018.

Idaho Power's main objectives for DSM programs are to achieve prudent, cost-effective energy efficiency savings and to provide an optimal amount of demand reduction from its demand response programs as determined through the Integrated Resource Plan (IRP) planning process. Idaho Power considers cost-effective energy efficiency the company's least-cost resource and pays particular attention to ensuring the best value to Idaho Power's customers. Idaho Power strives to provide customers with programs and information to help them manage their energy use wisely.

The company achieves these objectives through the implementation and careful management of programs that provide energy and demand savings and through outreach and education. For economic and administrative efficiency and to reduce customer confusion, Idaho Power endeavors to implement identical programs in its Idaho and Oregon service areas. Idaho Power has been locally operated since 1916 and serves more than 550,000 customers throughout a 24,000-square-mile area in southern Idaho and eastern Oregon.

Figure 3. Idaho Power service area map

Idaho Power's energy efficiency programs are available to all customer sectors in Idaho Power's service area and focus on reducing energy use by identifying homes, buildings, equipment, or components for which an energy-efficient design, replacement, or repair can achieve energy savings. Some energy efficiency programs include behavioral components. For example, the Residential Energy Efficiency Education Initiative (REEEI), the Smart-Saver Pledge, the School Cohort, and the Home Energy Report pilot program, which began in 2017, all have behavioral components associated with them.

Savings from energy efficiency programs are measured in terms of energy savings on a kilowatt-hour (kWh) or megawatt-hour (MWh) basis. These programs usually supply energy savings throughout the year at different times depending on the energy efficiency measure put in place. Idaho Power shapes these savings based on the end use to estimate energy reduction at specific times of the day and year. Idaho Power's energy efficiency offerings include programs in residential and commercial new construction (lost-opportunity savings); residential and commercial retrofit applications; and irrigation and industrial system improvement or replacement. Idaho Power's custom incentives offer a wide range of opportunities to its irrigation, industrial, large-commercial, governmental, and school customers to execute energy-saving projects.

Energy efficiency and demand response funding comes from Idaho Power base rates, the Idaho and Oregon Riders (Rider), and the annual power cost adjustment (PCA) in Idaho. Idaho incentives for the company's demand response programs are recovered through base rates and the annual PCA, while Oregon demand response incentives are funded through the Oregon Rider. Total expenditures from all funding sources on DSM-related activities was $ $44 million in 2018 (Figure 5).

Idaho Power started its modern demand response programs in 2002, and now has over 11 percent of its all-time peak load available due to demand response programs. The goal of demand response at Idaho Power is to minimize or delay the need to build new supply-side peaking resources. The company

estimates future capacity needs through the IRP planning process and plans resources to mitigate any system peak deficits that exist. Demand response program results are measured by the amount of demand reduction, in megawatts (MW), available to the company during system peak periods. According to 2017 U.S. Energy Information Administration (EIA) data, Idaho Power is one of eight investor-owned utilities with greater than 10 percent of their peak load controlled under demand response programs.

Annual DSM Expense Review Filing

On March 15, 2018, Idaho Power filed Case No. IPC-E-18-03 with the Idaho Public Utilities Commission (IPUC) requesting an order finding the company had prudently incurred $44,145,316 in DSM expenses in 2017, including $37,162,002 in Rider expenses, and $6,983,314 in demand response program incentives.

In Order No. 34141, dated September 11, 2018, the IPUC deemed $37,162,002 in Rider expenses, and $6,983,314 in demand response program incentives as prudently incurred.

DSM Programs Performance

The 2018 savings results consisted of 43,651 MWh from the residential sector, 95,759 MWh from the commercial/industrial sector, and 19,002 MWh from the irrigation sector. The Custom Projects option in the Commercial and Industrial (C&I) Energy Efficiency Program contributed 30 percent of Idaho Power's direct program savings, while the residential sector Energy Efficient Lighting and Educational Distributions programs contributed 80 percent of the residential savings and 22 percent of Idaho Power's direct program savings.

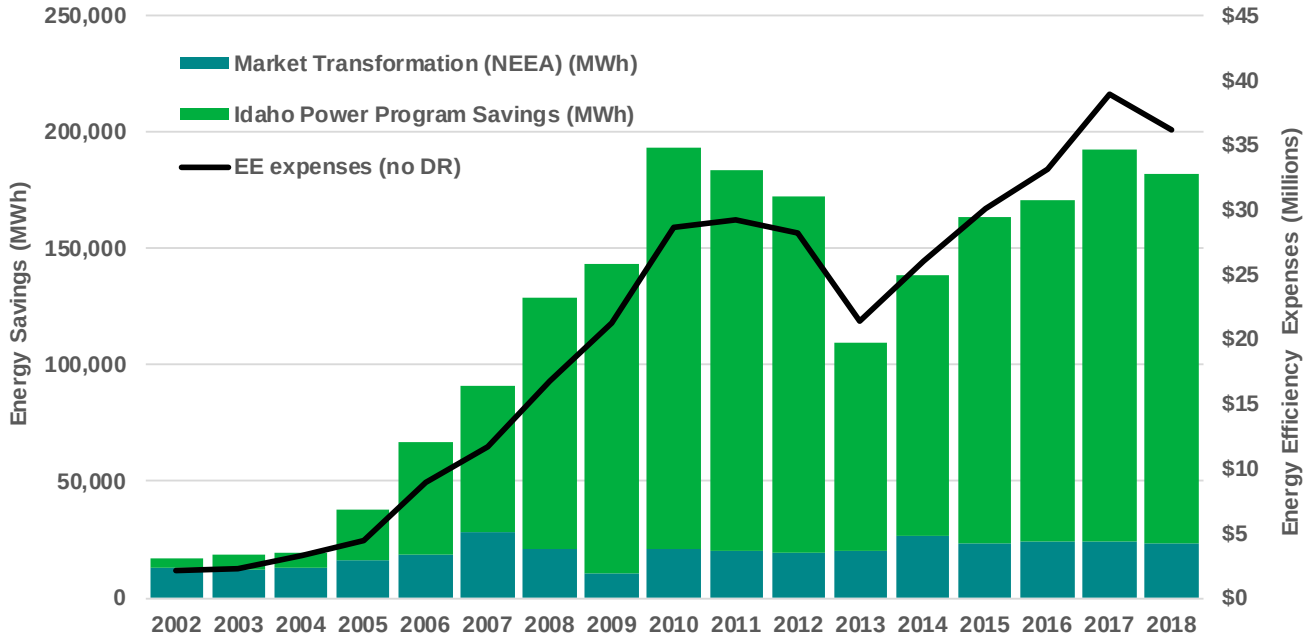

Figure 4. Annual energy savings and energy efficiency program expenses, 2002–2018 (MWh and millions [$])

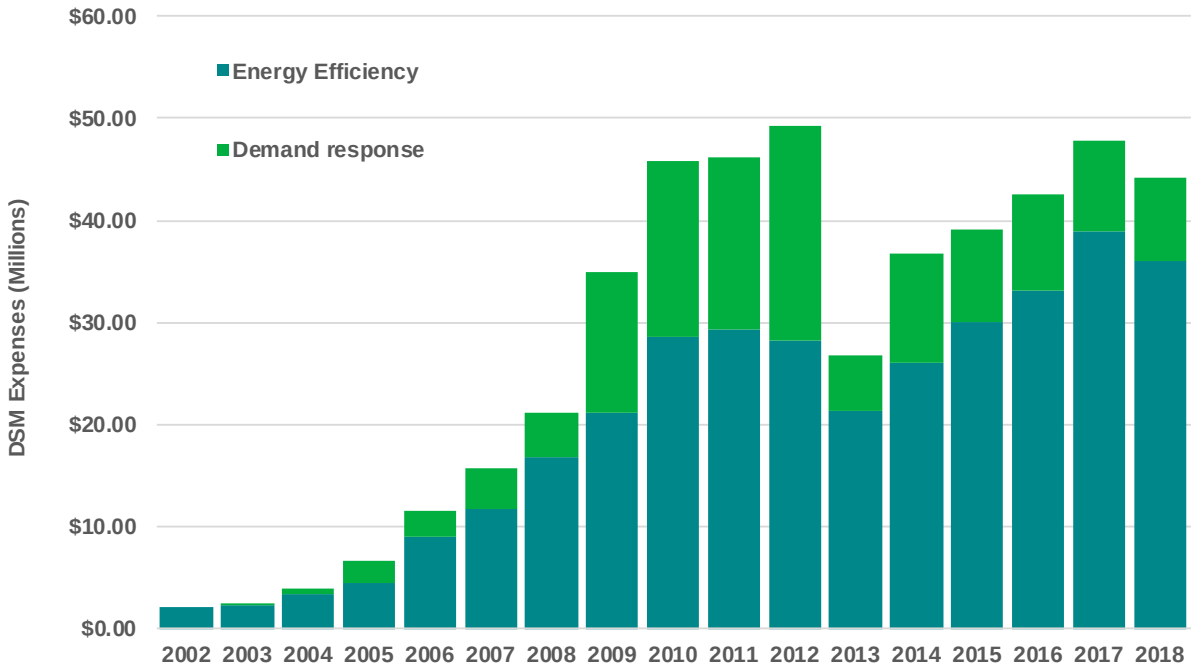

Figure 5. DSM expense history by program type, 2002–2018 (millions [$])

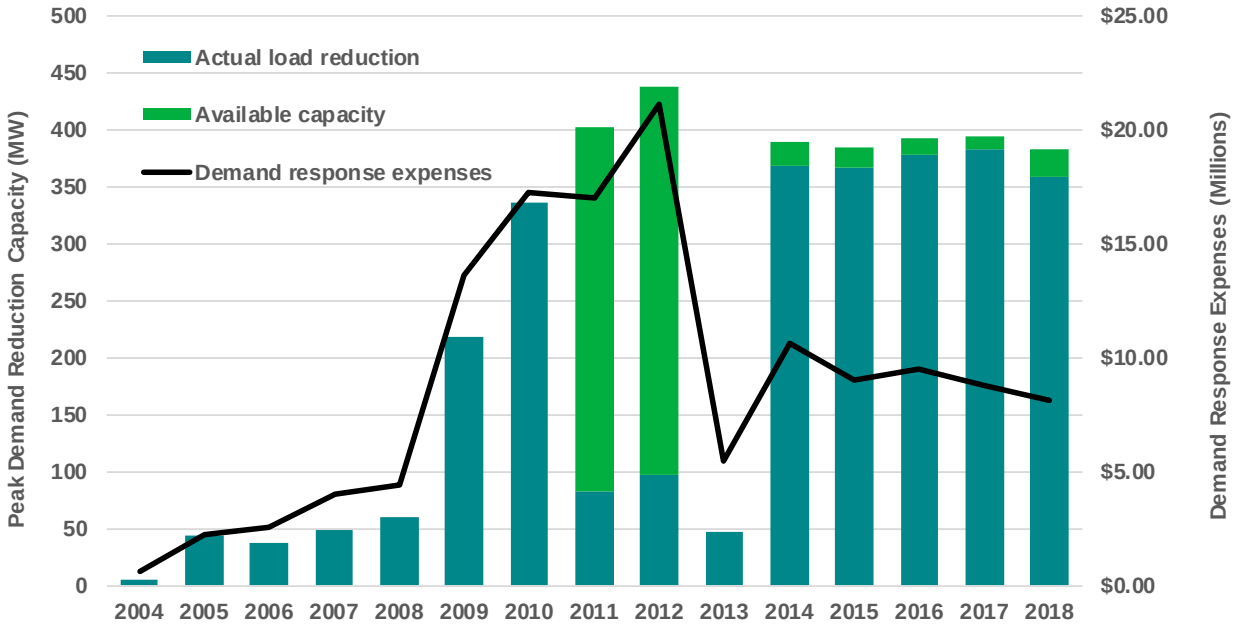

Figure 6. Peak demand-reduction capacity and demand response expenses, 2004–2018 (MW and millions [$])

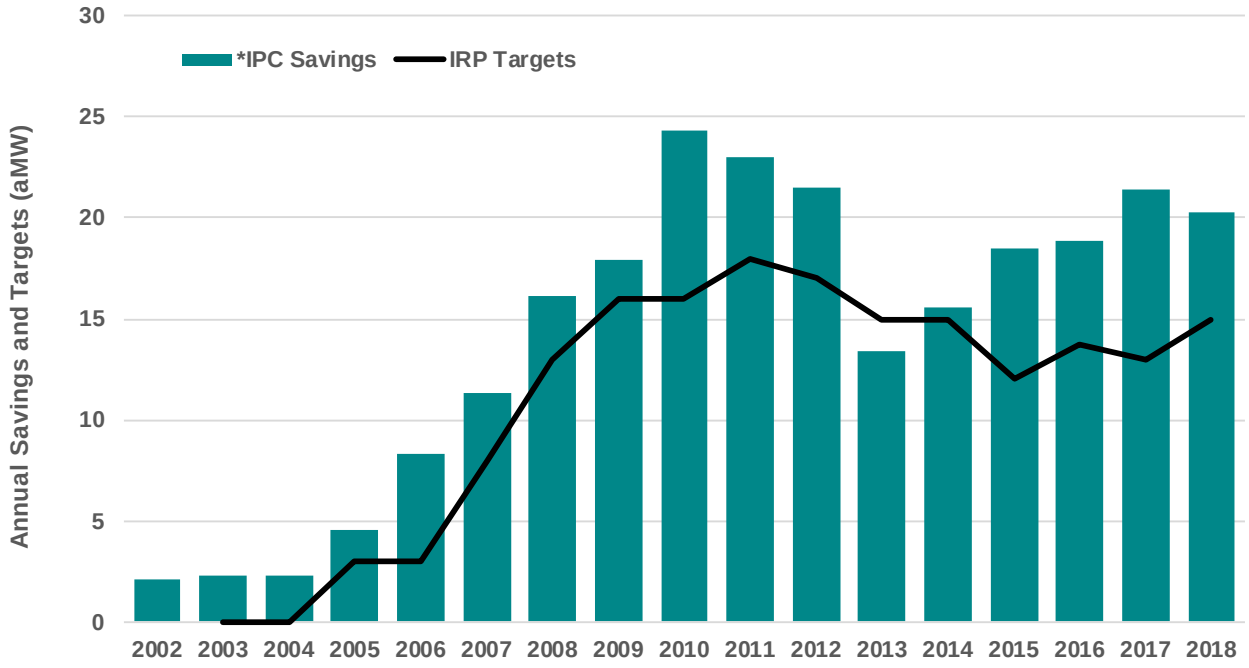

Figure 7. Annual incremental energy efficiency savings (aMW**) compared with IRP targets, 2002–2018
* NEEA codes and standards savings were removed because they are not included in IRP targets
**average megawatt

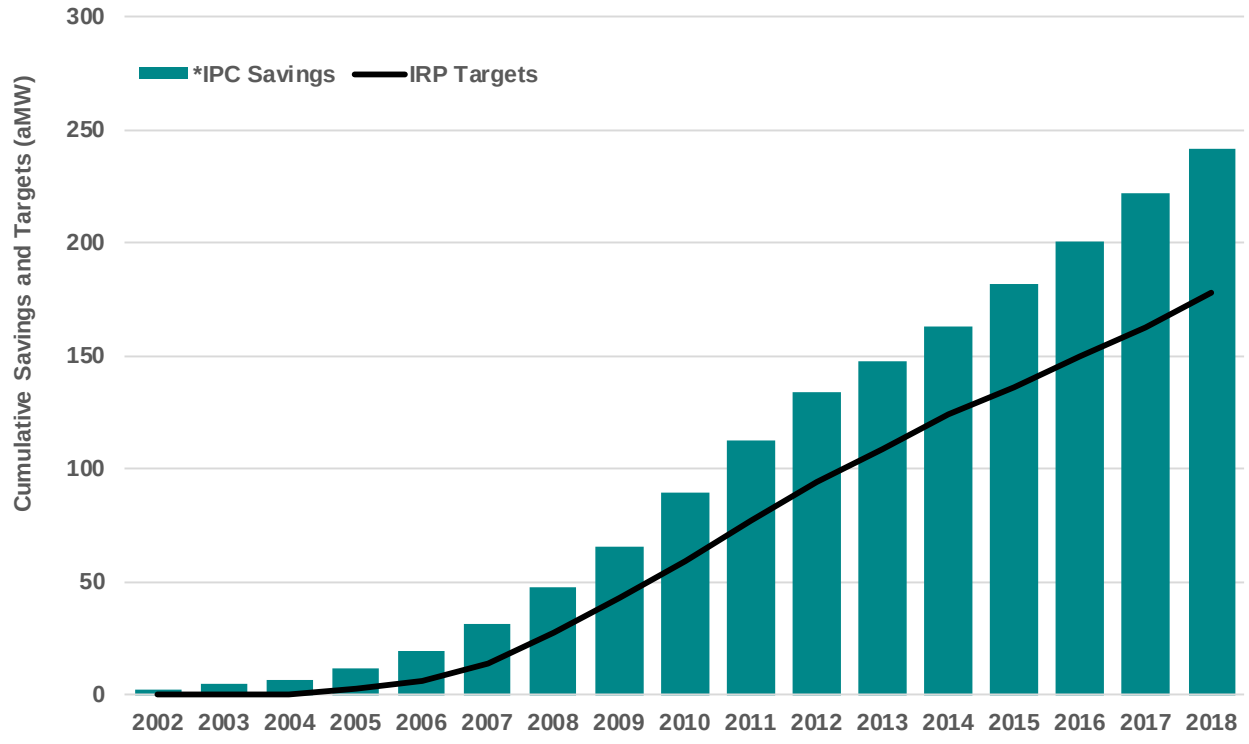

Figure 8. Annual cumulative energy efficiency savings (aMW**) compared with IRP targets, 2002–2018
*NEEA codes and standards savings were removed because they are not included in IRP targets.
**average megawatt

Idaho Power invests significant resources to maintain and improve its energy efficiency and demand response programs. Idaho Power's 2018 achievements in energy savings exceeded the annual savings target identified in Idaho Power's *2017 Integrated Resource Plan*. On a cumulative basis, the company's energy savings have exceeded the IRP targets every year since 2002 (Figure 8).

Demand Response

In summer 2018, Idaho Power had a combined maximum actual non-coincidental load reduction from all three programs of 359 MW at the generation level. The amount of capacity available for demand response varies based on weather, time of year, and how programs are used and managed. The 2018 capacity of demand response programs was 382 MW (Figure 6). The demand response capacity is calculated using total enrolled MW from participants with an expected maximum realization rate for those participants. This maximum realization rate is not always achieved for every program in any given year. The maximum capacity for the Irrigation Peak Rewards program is based on the maximum reduction possible during the hours within the program season. For the Flex Peak Program, the maximum capacity is assumed to be the maximum realized reduction. And for the A/C Cool Credit program, the capacity is calculated based on the number of active participants multiplied by maximum per-unit reduction ever achieved.

Idaho Power has forecast through the IRP that demand response capacity is not currently needed. However, under the terms of IPUC Order No. 32923 and Public Utility Commission of Oregon (OPUC) Order No. 13-482 the company has continued to maintain these programs and use them at least three times per season. In 2018, Idaho Power began conducting analysis and soliciting public input for the 2019 IRP. During this process, the company is analyzing if and when expanded demand response capacity is needed to avoid system peak deficiencies.

Energy Efficiency

Idaho Power's portfolio of energy efficiency program energy savings remains strong in 2018. However, the savings, including the estimated savings from NEEA, slightly decreased to 183,378 MWh compared to the 2017 savings of 192,260 MWh—a 4.6 percent year-over-year decrease. The savings from Idaho Power's energy efficiency programs alone, excluding NEEA savings, was 158,412 MWh in 2018 and 167,819 MWh in 2017—a 5.6 percent year-over year decrease. Even so, the 2018 savings represent enough energy to power over 16,000 average homes in Idaho Power's service area for one year.

In 2018, the company's energy efficiency portfolio was cost effective from both the total resource cost (TRC) test and the utility cost test (UCT) perspectives with ratios of 2.26 and 3.04, respectively. The portfolio was also cost-effective from the participant cost test (PCT) ratio, which was 2.85.

Table 1. DSM programs by sector, operational type, location, and energy savings/demand reduction, 2018

Program by Sector	Operational Type	State	Savings/Demand Reduction
Residential			
A/C Cool Credit	Demand Response	ID/OR	29 MW
Easy Savings: Low-Income Energy Efficiency Education	Energy Efficiency	ID	30 MWh
Educational Distributions	Energy Efficiency	ID/OR	16,052 MWh
Energy Efficient Lighting	Energy Efficiency	ID/OR	18,857 MWh
Energy House Calls	Energy Efficiency	ID/OR	374 MWh
Fridge and Freezer Recycling Program*	Energy Efficiency	ID/OR	74 MWh
Heating & Cooling Efficiency Program	Energy Efficiency	ID/OR	1,556 MWh
Home Energy Audit Program	Energy Efficiency	ID	211 MWh
Home Energy Report Pilot Program	Energy Efficiency	ID	3,282 MWh
Multifamily Energy Savings Program	Energy Efficiency	ID/OR	656 MWh
Oregon Residential Weatherization	Energy Efficiency	OR	0 MWh
Rebate Advantage	Energy Efficiency	ID/OR	285 MWh
Residential New Construction Pilot Program	Energy Efficiency	ID/OR	777 MWh
Shade Tree Project	Energy Efficiency	ID	36 MWh
Simple Steps, Smart Savings™	Energy Efficiency	ID/OR	241 MWh
Weatherization Assistance for Qualified Customers	Energy Efficiency	ID/OR	650 MWh
Weatherization Solutions for Eligible Customers	Energy Efficiency	ID	572 MWh
Commercial/Industrial			
Commercial and Industrial Efficiency Program			
Custom Projects	Energy Efficiency	ID/OR	46,964 MWh
New Construction	Energy Efficiency	ID/OR	13,378 MWh
Retrofits	Energy Efficiency	ID/OR	34,911 MWh
Commercial Energy-Saving Kit	Energy Efficiency	ID/OR	442 MWh
Flex Peak Program	Demand Response	ID/OR	33 MW
Green Motors—Industrial	Energy Efficiency	ID/OR	64 MWh
Oregon Commercial Audits	Energy Efficiency	OR	n/a
Irrigation			
Green Motors—Irrigation	Energy Efficiency	ID/OR	68 MWh
Irrigation Efficiency Rewards	Energy Efficiency	ID/OR	18,934 MWh
Irrigation Peak Rewards	Demand Response	ID/OR	297 MW
All Sectors			
Northwest Energy Efficiency Alliance	Market Transformation	ID/OR	24,966 MWh

* Although the Fridge and Freezer Recycling program was discontinued in 2017, Idaho Power did have a few pickups in 2018.

Table 2. DSM program sector summary and energy usage/savings/demand reduction, 2018

	Energy Efficiency Program Impacts [a]			Idaho Power System Sales		
	Program Expenses	Energy Savings (kWh)	Peak-Load Reduction (MW)[b]	Sector Total (MWh)	Percentage of Energy Usage	Number of Customers
Residential	$ 10,310,503	43,651,278		5,139,473	35%	459,128
Commercial/Industrial	17,014,509	95,759,049		7,471,683	51%	71,222
Irrigation	2,953,706	19,001,507		1,976,587	13%	20,077
Market Transformation	2,500,165	24,966,000				
Demand Response	8,169,419	n/a				
Direct Overhead/ Other Programs	1,978,570	n/a				
Total Direct Program Expenses	**$ 42,926,872**	**183,377,834**		**14,587,743**	**100%**	**550,427**

[a] Energy, average energy, and expense data have been rounded to the nearest whole unit, which may result in minor rounding differences.
[b] Includes 9.7 percent peak line loss assumptions.

Customer Education

Idaho Power participated in a select group of events impacting large audiences or audiences expected to have a higher receptivity to energy-efficient messaging and behavior change. Idaho Power additionally participated in or sponsored 45 outreach activities, including events, presentations, trainings, and other activities. Idaho Power customer representatives throughout the service area delivered numerous other presentations to local organizations addressing energy efficiency programs and wise energy use. In 2018, Idaho Power's community education team provided 118 presentations on *The Power to Make a Difference* to 3,063 students and 122 classroom presentations on *Saving a World Full of Energy* to 2,803 students. The community education representatives and other staff also completed 24 presentations to senior citizen groups on energy efficiency programs and shared information about saving energy to 1,149 senior citizens in the company's service area.

Since 2008, the company's commercial and industrial training activities have informed and educated commercial and industrial customers regarding energy efficiency, increased awareness of and participation in existing energy efficiency and demand response programs, and enhanced customer satisfaction regarding energy efficiency initiatives. The level of participation in 2018 remained high, with 337 attendees for the technical sessions and almost 90 for the program workshops. The workshops covered the following topics: Commercial/Industrial Motor Efficiency; Commercial/Industrial Adjustable Speed Drives; Compressed Air Challenge Level II—Advanced Management of Compressed Air Systems; Energy Efficiency of Chilled Water Systems; Energy Efficiency of Cooling Towers; Advanced Lighting Control Systems; Energy Efficient Data Center; Industrial Refrigeration Systems Energy Management; Heating, Ventilation, and Air Conditioning (HVAC) Controls Training; and Optimizing Pumping Systems: A Measurement-Based Approach.

Surveying Customer Satisfaction

Idaho Power fields a variety of customer surveys throughout the program year. Some of these are overall customer satisfaction or relationship surveys and others measure customer satisfaction related to specific program offerings. Depending on the nature of the research, these surveys are typically conducted by telephone, online, or through the mail. Surveys are conducted internally or by third-party research

vendors. Internally conducted surveys are managed by the customer relations and research coordinator with oversight by program specialists and/or the marketing department.

Based on surveys conducted in the last six months of 2017 and the first six months of 2018, Idaho Power ranked second out of 14 utilities included in the west region midsize segment of *the J.D. Power and Associates 2018 Electric Utility Residential Customer Satisfaction Study*. Fifty-two percent of the residential respondents in this study indicated they were aware of Idaho Power's energy efficiency programs, and on an overall basis, those customers were more satisfied with Idaho Power than customers who are unaware of the programs.

Burke, Inc., conducts quarterly customer relationship surveys to measure the overall customer relationship and satisfaction with Idaho Power among all customer segments. The Burke Customer Relationship Survey measures the satisfaction of a number of aspects of a customer's relationship with Idaho Power, including energy efficiency at a very high level. However, the survey is not intended to measure all aspects of energy efficiency programs offered by Idaho Power.

The 2018 results of Idaho Power's customer relationship survey showed record high overall customer satisfaction including an increase in meeting and exceeding customers' needs by encouraging energy efficiency. Sixty-seven percent of customers indicated their needs were met or exceeded by Idaho Power encouraging energy efficiency among its customers. Figure 9 depicts the percent of customers who indicated Idaho Power met or exceeded their needs concerning the energy efficiency efforts it encouraged each year since 2009.

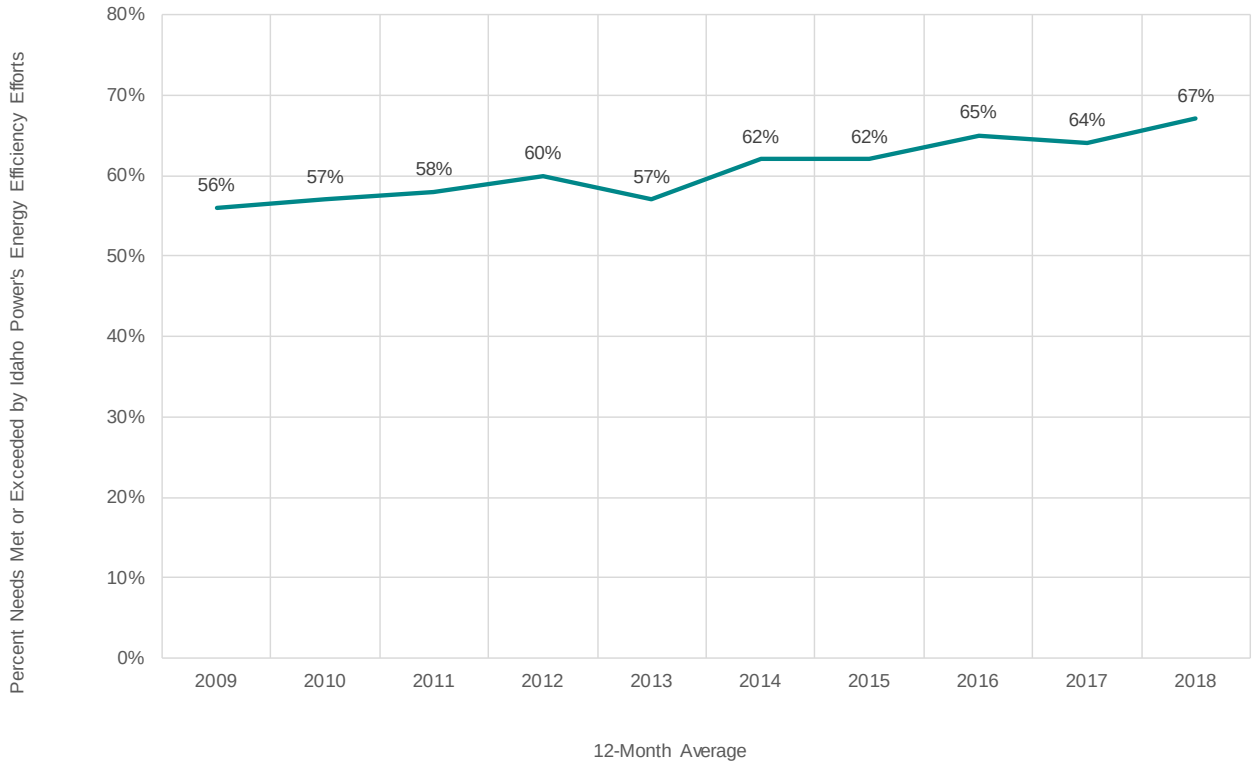

Figure 9. Customers' needs "met" or "exceeded" (percent), 2009–2018

The 2018 survey also asked three questions related to Idaho Power's energy efficiency programs: 1) Have you participated in any of Idaho Power's energy efficiency programs? 2) Which energy

efficiency program did you participate in? and 3) Overall, how satisfied are you with the energy efficiency program? In 2018, 45 percent of the survey respondents across all sectors indicated they participated in at least one Idaho Power energy efficiency program, and 92 percent were "very" or "somewhat" satisfied with the program they participated in.

Results of sector-level, program-level, and/or marketing-related customer satisfaction surveys can be found later in this report.

Program Evaluation Approach

Idaho Power considers program evaluation an essential component of its DSM operational activities. The company uses third-party contractors to conduct impact, process, and other evaluations on a scheduled and as-required basis. In some cases, research and analyses are conducted internally and managed by Idaho Power's Research and Analysis team within the Customer Relations and Energy Efficiency (CR&EE) department. Third-party evaluations are specifically managed by the company's energy efficiency evaluator. Third-party contracts are generally awarded using a competitive-bid process managed by Idaho Power's Corporate Services department.

Idaho Power uses industry-standard protocols for its internal and external evaluation efforts, including the National Action Plan for Energy Efficiency—Model Energy Efficiency Program Impact Evaluation Guide, the California Evaluation Framework, the International Performance Measurement and Verification Protocol (IPMVP), the Database for Energy Efficiency Resources, and the Regional Technical Forum's (RTF) evaluation protocols.

The company also supports regional and national studies to promote the ongoing cost-effectiveness of programs, the validation of energy savings and demand reduction, and the efficient management of its programs. Idaho Power considers primary and secondary research, cost-effectiveness analyses, potential assessments, and impact and process evaluations to be important resources in providing accurate and transparent program-savings estimates. Idaho Power uses recommendations and findings from evaluations, research, and industry best practices to continuously refine its DSM programs.

For a summary of evaluation results, recommendations, and responses, see each program section. For copies of 2018 program evaluation reports and past and future evaluation schedules, see *Supplement 2: Evaluation*.

Cost-Effectiveness Goals

Idaho Power considers cost-effectiveness of primary importance in the design, implementation, and tracking of energy efficiency and demand response programs. Idaho Power's energy efficiency and demand response opportunities are preliminarily identified through the IRP process. Idaho Power uses third-party energy efficiency potential studies to identify achievable cost-effective energy efficiency potential that is added to the resources included in the IRP. Because of Idaho Power's diversified portfolio of programs, most of the new potential for energy efficiency in its service area is based on additional measures to be added to existing programs, rather than developing new programs.

Prior to the actual implementation of energy efficiency or demand response programs, Idaho Power performs a cost-effectiveness analysis to assess whether a potential program design or measure will be

cost-effective from the perspective of Idaho Power and its customers. Incorporated in these models are inputs from various sources that use the most current and reliable information available.

Idaho Power's goal is for all programs to have benefit/cost (B/C) ratios greater than one for the TRC test, UCT test, and PCT at the program and measure level where appropriate. Each cost-effectiveness test provides a different perspective, and Idaho Power believes each test provides value when evaluating program performance. If a measure or program is found to be not cost-effective from one or more of the three tests, Idaho Power assesses the program or measure and runs the cost-effectiveness calculations under a variety of scenarios. There are many assumptions when calculating the cost-effectiveness of a given program or measure. For some measures within the programs, savings can vary based on factors, such as participation levels or the participants' locations. For instance, heat pumps installed in the Boise area will have less savings than heat pumps installed in the McCall area. If program participation and savings increase, fixed costs, such as labor and marketing, are distributed more broadly, and the program cost-effectiveness increases.

When a program or measure is shown to be not cost-effective, Idaho Power works with the Energy Efficiency Advisory Group (EEAG) to obtain input before making its determination on continuing or discontinuing an offering. If the measure or program is indeed offered, the company explains to EEAG and stakeholders why the measure or program was implemented or continued and the steps the company plans to take to improve its cost-effectiveness. The company believes this aligns with the expectations of the IPUC and OPUC.

As part of the public workshops on Case No. IPC-E-13-14, Idaho Power and other stakeholders agreed on a new methodology for valuing demand response. The settlement agreement, as approved in IPUC Order No. 32923 and OPUC Order No. 13-482, defined the annual cost of operating the three demand response programs for the maximum allowable 60 hours to be no more than $16.7 million. The annual value calculation will be updated with each IRP based on changes that include, but are not limited to, need, capital cost, or financial assumptions. This amount was reevaluated in the 2015 IRP to be $18.5 million. Under the 2017 IRP, this value is $19.8 million.

This value is the levelized annual cost of a 170-MW deferred resource over a 20-year life. The demand response value calculation will include this value even in years when the IRP shows no peak-hour capacity deficits. In 2018, the cost of operating the three demand response programs was $8.2 million. Idaho Power estimates that if the three programs were dispatched for the full 60 hours, the total costs would have been approximately $11.3 million and would have remained cost-effective. The settlement agreement also allowed Idaho Power to design its programs such that they can be dispatched three times a year with no variable costs. This is what Idaho Power normally does unless the capacity is needed to meet load.

Details on the cost-effectiveness assumptions and data are included in *Supplement 1: Cost-Effectiveness*.

Energy Efficiency Advisory Group

Formed in 2002, EEAG provides input on enhancing existing DSM programs and on implementing energy efficiency programs. Currently, EEAG consists of 13 members from Idaho Power's service area and the Northwest. Members represent a cross-section of customers from the residential, industrial, commercial, and irrigation sectors, and technical experts, as well as representatives from low-income

households, environmental organizations, state agencies, county and city governments, public utility commissions, and Idaho Power.

EEAG meets quarterly and, when necessary, Idaho Power facilitates conference calls and/or webinars to address special topics. In 2018, four EEAG meetings were held: February 8, May 1, August 9, and October 30. EEAG meetings are generally open to the public and attract a diverse audience. Idaho Power appreciates the input from the group and acknowledges the commitment of time and resources the individual members give to participate in EEAG meetings and activities.

During these meetings, Idaho Power discussed new energy efficiency program ideas and new measure proposals, marketing methods, and specific measure details. The company provided the status of energy efficiency expenses and Idaho and Oregon Rider funding, gave updates of ongoing programs and projects, and supplied general information on DSM issues and other important issues occurring in the region. Experts were invited to speak about evaluations, research, and other topics of interest.

Idaho Power relies on input from EEAG to provide a customer and public-interest view of energy efficiency and demand response. Additionally, Idaho Power regularly provides updates on current and future cost-effectiveness of energy efficiency programs and the changes in IRP provides updates on DSM alternate costs, which Idaho Power uses in calculating cost-effectiveness. In each meeting, Idaho Power requests feedback from EEAG members on energy efficiency and demand response programs, specific measures, and incentives. EEAG often recommends presentation ideas for future meetings.

Throughout 2018, Idaho Power relied on input from EEAG on the following important topics.

Residential Energy-Saving Kits

The deemed savings that had been previously applied to the Giveaway Energy-Saving Kits (ESK) were no longer being supported by the RTF, and the new deemed savings did not apply to the Giveaway ESKs as designed. Idaho Power presented options on how to manage the giveaways moving forward, including changing the kits to match the savings that were supported by the RTF or keeping the ESKs as-is and continuing to apply the previous savings. EEAG agreed the company should continue to distribute Giveaway ESKs to customers who call about their high bills and at various events, while continuing to apply the previous deemed savings. EEAG agreed this effort should be continued as this interaction is targeted to a more engaged customer.

Simple Steps, Smart Savings

Idaho Power reported to EEAG that the incremental price difference between standard and high efficiency showerheads had become small and asked the group if the company should continue with incentives for this measure. The group suggested the company should consider market indicators before deciding whether to continue offering this measure. Based on EEAG's feedback and findings from researching the market that indicated inefficient showerheads are still available, the group recommended the company should continue offering these showerheads as part of the program.

School Cohort

EEAG was asked for input regarding continuation with year-two of the School Cohort. The group expressed appreciation that the company is looking for ways to improve and continue this program. The consensus of the group was that Idaho Power should continue this effort for the second year.

A/C Cool Credit

The company informed EEAG that it was unable to communicate with a small number of load control devices and it committed to develop a plan to test these devices. The company provided detailed information regarding the proposed testing protocol and explained that, as a last resort, participants would be removed from the program if reliable communication could not be established. After further discussion, the group was in favor of Idaho Power moving forward with the new testing protocol.

Smart-Saver Pledge

At the October 2017 meeting, Idaho Power updated EEAG regarding the status of the 2018 campaign. Previously, EEAG members were asked to work in groups to help Idaho Power come up with new low-cost or no-cost items to use in the pledge. As a result, four out of the five items listed on the 2018 pledge form came from that break out session.

Idaho Power Field Staff

Idaho Power has a wide array of field personnel who have regular and almost continual contact with its customers provide this service throughout the Idaho Power service area. These expert energy advisors include: major account and combo representatives, customer representatives, agriculture representatives, community education representatives, and customer solutions advisors. All the representatives are subject-matter experts in their respective fields and provide added support for customers through strong working relationships. These representatives promote Idaho Power's energy efficiency programs and help customers to use energy wisely.

Future Plans for DSM Programs

Idaho Power will continue to pursue all prudent cost-effective energy and an appropriate amount of demand response based on the demand response settlement agreement approved in IPUC Order No. 32923 and OPUC Order No. 13-482. The forecast level of energy efficiency and the needed level of demand response are determined by Idaho Power's biennial IRP planning process. Idaho Power includes all achievable cost-effective energy savings as identified in its potential studies in each IRP and considers this achievable potential a reasonable 20-year planning estimate. However, the company does not consider the achievable potential as a ceiling limiting energy efficiency acquisition. The IRP is developed in a public process that details Idaho Power's strategy for economically maintaining the adequacy of its power system into the future. The IRP process balances reliability, cost, risk, environmental concerns, and efficiency to develop a preferred portfolio of future resources to meet the specific energy needs of Idaho Power's customers.

The company will explore new energy-savings potential through third-party resources, conferences, and regional organizations, and will continue to assess and develop new program offerings through its Program Planning Group (PPG). Idaho Power will work in consultation with EEAG to expand or modify

its energy efficiency portfolio. Future plans for individual programs are included under each program's *2019 Program and Marketing Strategies* section.

In 2018, Idaho Power will continue to enhance its marketing and outreach efforts as described in the Marketing section of this report and within each program section. Idaho Power will continue to work with NEEA on its market transformation activities during the 2015–2019 funding cycle and will participate in discussions with NEEA concerning its 2020–2024 funding cycle.

The company will complete its research and evaluation, measurement, and verification (EM&V) projects included in the evaluation plan in *Supplement 2: Evaluation*.

DSM Annual Report Structure

The *Demand-Side Management 2018 Annual Report* consists of this main document and two supplements.

The main document contains the following sections related to 2018 DSM activities: 1) program activities by customer sector (residential, commercial/industrial, and irrigation) including marketing efforts, cost-effectiveness analysis, customer satisfaction survey results, and evaluation recommendations and responses for each program; 2) other program and activity details including market transformation; 3) and four appendices of data related to payments, funding, and program-level costs and savings. Where appropriate, plans for 2019 are also discussed. Historical data related to energy efficiency programs and demand response activities that was traditionally reported in Appendix 4, has been moved to *Supplement 2: Evaluation* in the *Other* section.

Supplement 1: Cost-Effectiveness describes the standard cost-effectiveness tests for Idaho Power programs and reports current-year program-level and summary cost-effectiveness and expenses by funding source and cost category.

Supplement 2: Evaluation includes an evaluation and research summary, an evaluation plan, EEAG meeting notes, links to NEEA evaluations, and copies of Integrated Design Lab (IDL) reports, research and survey reports, evaluation reports, and other reports (including the historical program data mentioned above).

2018 DSM Program Activity

DSM Expenditures

Funding for DSM programs in 2018 came from several sources. The Idaho and Oregon Rider funds are collected directly from customers on their monthly bills. The 2018 Idaho Rider was 3.75 percent of base revenues. On November 9, 2018 Idaho Power filed Advice No. 18-10 with the OPUC to increase the Oregon Rider collection percentage from 3 percent to 4 percent of base revenues. Concurrently, Idaho Power filed Advice No. 18-11 to lower the collection percentage of the Solar Photovoltaic Pilot Program Rider, and in both advice filings requested to transfer $5.5 million from the Solar Photovoltaic Pilot Program Rider balance to the Oregon Rider balance. Both advice filings received OPUC approval on December 18, 2018. Additionally, Idaho demand response program incentives were paid through base rates and the annual PCA mechanism. DSM expenses not funded through the Rider are included as part of Idaho Power's ongoing operation and maintenance (O&M) costs.

Total DSM expenses funded from all sources were $44.3 million in 2018. At the beginning of 2018, the Idaho Rider balance was approximately $0.4 million, and by December 31, 2018, the positive balance was $5.3 million. At the beginning of 2018, the Oregon Rider negative balance was approximately $6.3 million, and by year-end, the negative balance was $1.4 million.

Table 3 shows the total expenditures funded by the Idaho and Oregon riders and non-rider funding resulting in Idaho Power's total DSM expenditures of $44,262,080. The non-rider funding category includes the company's demand response Idaho incentives, Weatherization Assistance for Qualified Customers (WAQC) expenses, and O&M costs.

Table 3. 2018 funding source and energy savings

Funding Source	Expenses	MWh Savings
Idaho Rider	$ 33,663,001	176,204
Oregon Rider	1,757,910	6,524
Idaho Power Base Rates	8,841,168	650
Total	**$ 44,262,080**	**183,378**

Table 4 and Figure 10 indicate 2018 DSM program expenditures by category. The Materials & Equipment category includes items that directly benefit customers: ESKs and LED lightbulbs distributed at customer events ($2,255,883) and direct-install weatherization measures ($125,000). The expenses in the Other Expense category include marketing ($1,270,112), program evaluation ($97,448), program training ($168,278), and Custom Projects energy audits ($259,821). The Purchased Services category includes payments made to NEEA and third-party contractors who help deliver Idaho Power's programs.

Table 4. 2018 DSM program expenditures by category

	Total	% of Total
Incentive Expense	$ 25,114,246	57%
Labor/Administrative Expense	3,867,974	8%
Materials & Equipment	2,638,648	6%
Other Expense	2,148,339	5%
Purchased Services	10,492,873	24%
Total 2018 DSM Expenditures by Category	**$ 44,262,080**	**100%**

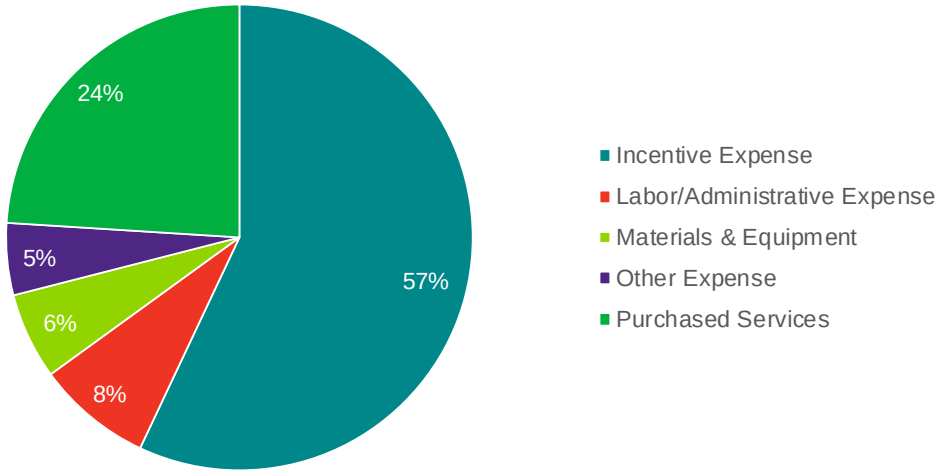

Figure 10. 2018 DSM program expenditures by category

Table 5. 2018 DSM program incentive totals by program type and sector

Program Type—Sector	Total	% of Total
DR[a]—Residential	$ 379,237	2%
DR—Commercial/Industrial	371,496	1%
DR—Irrigation	6,636,510	26%
EE[b]—Residential	2,029,822	8%
EE—Commercial/Industrial	13,180,964	53%
EE—Irrigation	2,516,217	10%
Total Incentive Expense	**$ 25,114,246**	**100%**

[a] DR = demand response
[b] EE = energy efficiency

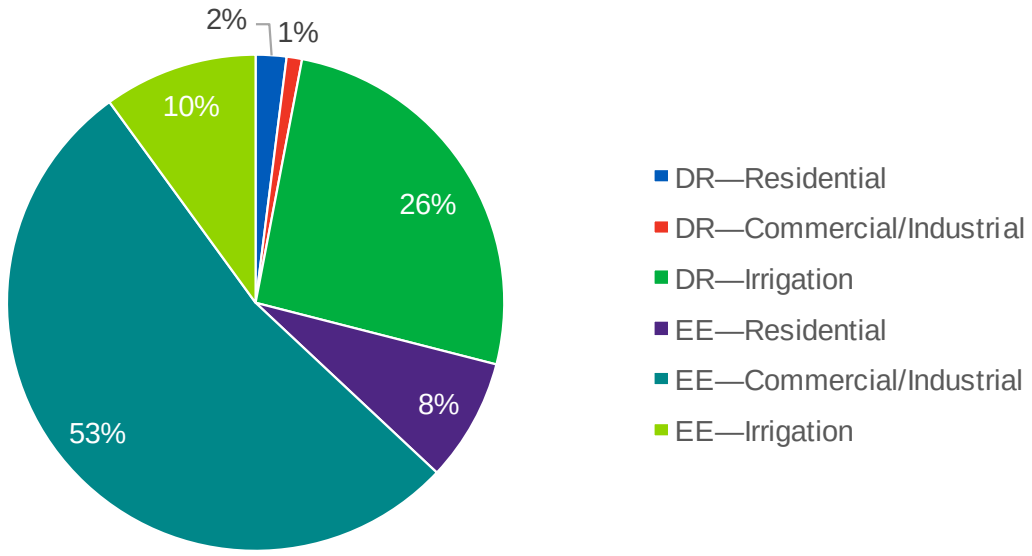

Figure 11. DSM program incentives by segment and sector, 2018

Marketing

Idaho Power used multi-channel marketing and public relations strategies in 2018 to improve communication and increase energy efficiency program awareness among its customers. Idaho Power uses a wide variety of media and marketing. Owned media (social, website, and newsletters) and paid media (advertising and sponsorships) allow Idaho Power to control content. Earned unpaid media (news coverage, Idaho Power's *News Briefs* sent to reporters, third-party publications, and television news appearances) give Idaho Power access to audiences through other channels and help establish credibility and brand trust. Though Idaho Power has less control of the content with earned unpaid media, the value is established from the third-party endorsement.

The following describes a selection of the methods, approaches, and strategies used by Idaho Power to engage with customers regarding energy efficiency, along with their results. See the respective Sector Overviews and program sections later in this report for the company's marketing efforts specific to those areas.

Social Media

Approximately 25 percent of the company's total social media content promoted energy efficiency in 2018. Idaho Power regularly posted messages encouraging energy efficiency behaviors, program enrollment, and customer engagement on Facebook, Twitter, YouTube, and LinkedIn. Social media content also showcased local businesses and organizations that have benefitted from Idaho Power energy efficiency efforts. Idaho Power engaged with customers posting their own social media content about Idaho Power programs such as Energy-Saving Kits and Welcome Kits.

Figure 12. Idaho Power shares energy efficiency tips and engages with customers on social media.

In 2018, Idaho Power continued its *#TipTuesday* posts on Facebook and Twitter. *#TipTuesday* posts provided Idaho Power's Facebook and Twitter followers with an energy efficiency tip or program information every Tuesday of the year, with the exception of a brief hiatus in September while the team worked to update design and strategy. The posts used photos and included the hashtag *#TipTuesday* so the tips could be categorized together and easily identified by social media users. For the first time, the company paid to "boost" a few *#TipTuesday* posts to increase reach to Idaho Power Facebook followers and their friends. Facebook charges a fee to boost a post to target specific audiences.

Idaho Power's Facebook followers increased 9.6 percent in 2018, from 17,645 at the end of 2017 to 19,340 at the end of 2018. Though the number of followers increased overall, the rate Idaho Power added followers is slightly lower in 2018 because Facebook changed to an algorithm that promotes interactions from friends and family over content from businesses or brands. In this new Facebook environment, it is harder to reach followers or gain new followers without paying for advertising.

Idaho Power uses Twitter to communicate with customers, the media, and business partners about media items, large outages, and energy efficiency. Idaho Power's Twitter followers increased 5 percent in 2018, from 5,510 followers to 5,785. Twitter growth is a lower priority for Idaho Power, as Facebook is a much more widely used and more popular platform for engaging directly with all customer demographics.

Idaho Power saw a very favorable increase in followers on LinkedIn: up 24 percent from 2017. The increase is attributed to a concerted effort to engage business and commercial customers in energy efficiency on LinkedIn, as well as position the company as a good corporate citizen and employer of choice.

Website

Idaho Power tracked the number of page views to the main energy efficiency pages—also known as landing pages—on the company's website. In 2018, the company's energy efficiency homepage received 35,326 page views, the residential landing page received 213,183, and the business and irrigation landing pages received 13,394. Idaho Power uses Google Analytics to analyze web activity. Google's definition of page views is the total number of pages viewed, with repeated views of a single page by one user counted as a new view.

Bill Inserts

A February bill insert promoting Idaho Power's Empowered Community, which is often surveyed on topics related to energy efficiency, was sent to 329,379 customers. Read more about the Empowered Community in the Residential Sector Overview. Other program-specific bill inserts were also sent throughout the year. Information about those can be found in each program later in this report.

Public Relations

Idaho Power's public relations (PR) staff supported energy efficiency programs and activities through multiple channels: *eNews* videos telling energy efficiency success stories; *Connections,* a monthly customer newsletter distributed in approximately 410,000 monthly bills and available online; *News Briefs*, a weekly email of interesting news items sent to all media in the company's service area; pitching and participating in news stories; energy efficiency TV segments in three markets (KTVB in Boise, KPVI in Pocatello, and KMVT in Twin Falls); news releases; and public events (such as incentive check presentations).

In 2018, the April and October issues of *Connections* were devoted to energy efficiency. The April issue included stories about Idaho Power's heat pump water heater (HPWH) incentive for residential customers, the winners of the 2017 Smart-Saver Pledge contest, and an energy-saving success story at Alpine Automotive in McCall. The October edition of *Connections* focused on fixing leaks to keep homes cozy, the benefits of Home Energy Audits, and the kickoff of the 2018 Smart-Saver Pledge.

Idaho Power produced a number of videos championing energy efficiency in 2018. Examples include wintertime energy savings tips; ductless heat pumps (DHP); energy-savings success at Alpine Automotive in McCall, Roaring Springs and Wahooz in Meridian, and the Pocatello School District; the Multifamily Energy Saving Program; and a series of quick tip for social media. Collectively, energy efficiency videos posted in 2018 received more than 2,700 views on YouTube and an additional 5,600 views on Facebook.

The monthly energy efficiency television segments continued to receive positive feedback. Topics included energy-saving New Year's resolutions, Energy-Saving Kits, energy efficient spring planting, ways to beat the summer heat, and energy efficient holiday cooking and decorating. Idaho Power representatives conducted the energy efficiency segments on stations in Boise, Twin Falls and Pocatello.

In Pocatello, the station discontinued regular monthly segments because of a format change late in the year, but a customer representative made several TV appearances and was interviewed on the radio for topics related to energy efficiency in October and November.

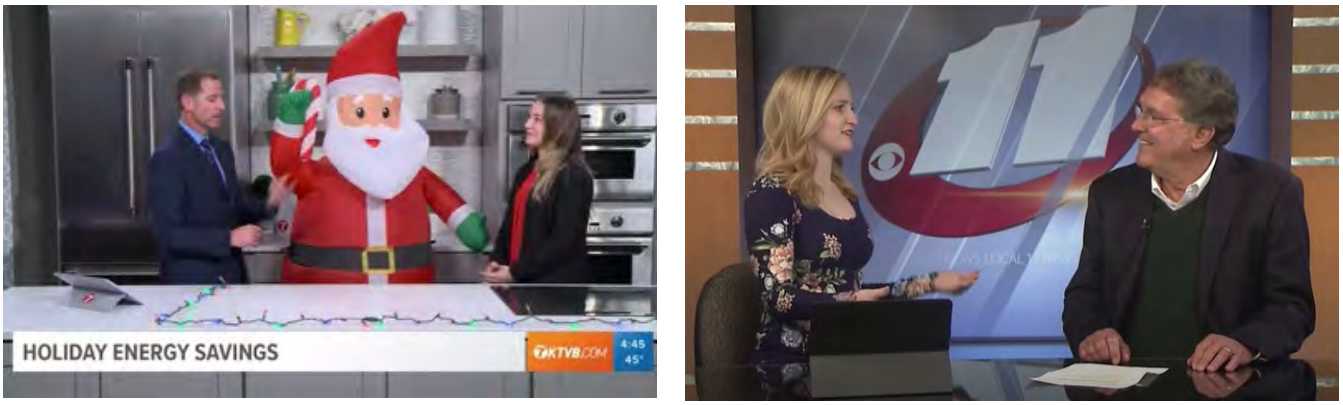

Figure 13. Idaho Power appearances on KTVB and KMVT

Media outreach efforts resulted in a variety of earned media coverage focused on energy efficiency. Energy efficiency topics were pitched in *News Briefs* throughout the year, and the company earned media coverage in multiple markets spanning print, TV, and radio. Some of the most popular story topics included winter savings tips in January, a large incentive check for SUEZ Water in September, and Idaho Power receiving the Governor's Award for Excellence in Energy Efficiency in October.

Staff Activities

Idaho Power staff networks with organizations across the region and industry to ensure it is informed about current and future marketing trends and successes. NEEA and Idaho Power staff held regular meetings throughout 2018 to coordinate, collaborate, and facilitate marketing for all sectors. All marketing activities were reviewed for progress, results, and collaborative opportunities.

To build marketing networks and to learn what works in other regions, Idaho Power staff attended the E Source Utility Marketing Executive Council and E Design Conference in April and the E Source Utility Marketing Executive Council and Forum in September.

2019 Marketing Activities

In 2019, the Idaho Power marketing department plans to introduce new strategies to expand the reach and visibility of the company's energy efficiency ads.

The marketing team will update the Residential Energy Efficiency Awareness Campaign and consider running it on new digital platforms. Idaho Power will continue to support various business organizations and programs focused on promoting energy efficiency and will explore radio advertisements and additional resources targeted toward small businesses. Additionally, the company will continue to update collateral and displays for irrigation programs and trade shows.

See the Sector Overviews for more specific marketing plans for the future.

Cost-Effectiveness Results

In 2018, 18 individual measures in various program are shown to be not cost-effective from either the UCT or TRC perspective. These measures will be discontinued, analyzed for additional non-energy benefits (NEB), modified to increase potential per-unit savings, or monitored to examine their impact on the specific program's overall cost-effectiveness.

Most of Idaho Power's energy efficiency programs were cost-effective from the perspective of all tests, except for the Heating and Cooling Efficiency (H&CE) Program, Shade Tree Project, and the weatherization programs for income-qualified customers.

Heating & Cooling Efficiency Program

The H&CE Program has a UCT of 1.65, TRC of 0.83, and PCT of 1.50. In 2016, Idaho Power reviewed the program's cost-effectiveness and notified EEAG at the August 30, 2016, meeting that the program was anticipated to be not cost-effective from the TRC perspective. Idaho Power has continued to update EEAG of its efforts to improve the program's cost-effectiveness.

Throughout 2017 and into 2018, Idaho Power worked toward improving program cost-effectiveness. These tactics included: 1) reassigning non-program labor, 2) reducing marketing spend while optimizing campaigns, 3) reducing contractor incentives from $150 to $50, and 4) adding heat pump water heaters to the program. These efforts were successful in keeping cost-effectiveness ratios from falling in 2018 over 2017 levels. However, calibrations to end-use load shapes created for the 2016 energy efficiency potential study offset cost-effectiveness gains from cost control efforts in 2018. Had Idaho Power used the same load shape as was used for the 2017 program year, the program would have had a TRC just over 1.0.

Shade Tree Project

The Shade Tree Project has a UCT of 0.71, a TRC of 0.80. The cost-effectiveness for the program is based on the modeled savings for the tree distributed in 2018 and the costs incurred during 2018. It is estimated that these trees will begin saving 35,425 kWh in 2022 and 116,197 kWh by year 2038.

The shade tree calculator assumes a measure life of 20 years for the average tree. However, the most common tree species distributed in 2018 have an average life of 50 to 500 years according to the United States Department of Agriculture and the Urban Forest Ecosystem Institute. While the savings beyond 2038 are unknown, if the energy savings were to stay constant beyond year 20, it can be assumed the program would be cost-effective from both the UCT and TRC perspective if the program life was revised to 30 years.

Weatherization Programs

The WAQC program had a TRC of 0.52 and a UCT ratio of 0.43, and the Weatherization Solutions for Eligible Customers (Weatherization Solutions) program had a TRC of 0.51 and a UCT ratio of 0.37. The programs showed a slight increase in cost-effectiveness ratios over 2017. However, the cost-effectiveness ratios will decline slightly again in 2019 with the full adoption of the 2017 IRP DSM alternate costs. Also in 2019, both WAQC and Solutions will have updated per-home savings based on a billing analysis of the homes weatherized between 2015–2017.

Table 6. Cost-effectiveness summary by energy efficiency program

Program/Sector	UCT	TRC	Ratepayer Impact Measure (RIM)	PCT
Educational Distributions	2.68	4.51	0.58	N/A
Energy Efficient Lighting	4.67	6.64	0.59	13.05
Energy House Calls	1.37	1.74	0.42	N/A
Heating & Cooling Efficiency Program	1.65	0.83	0.47	1.50
Multifamily Energy Savings Program	1.60	3.00	0.47	N/A
Rebate Advantage	1.93	1.08	0.45	2.09
Residential New Construction Pilot Program	2.51	1.23	0.59	1.97
Shade Tree Project	0.71	0.80	0.57	N/A
Simple Steps, Smart Savings	1.44	4.68	0.48	8.54
Weatherization Assistance for Qualified Customers	0.43	0.52	0.25	N/A
Weatherization Solutions for Eligible Customers	0.37	0.51	0.22	N/A
Residential Energy Efficiency Sector	**2.37**	**3.16**	**0.54**	**10.03**
Commercial and Industrial Energy Efficiency Program				
Custom Projects	3.85	2.32	1.18	1.92
New Construction	3.97	1.79	0.89	1.88
Retrofits	3.58	1.45	0.87	1.55
Commercial Energy-Saving Kits	1.56	2.50	0.65	N/A
Commercial/Industrial Energy Efficiency Sector *	**3.75**	**1.87**	**1.01**	**1.76**
Irrigation Efficiency Rewards	4.57	3.03	1.29	2.73
Irrigation Energy Efficiency Sector **	**4.60**	**3.04**	**1.29**	**2.73**
Energy Efficiency Portfolio	**3.04**	**2.26**	**0.83**	**2.85**

* Commercial/Industrial Energy Efficiency Sector cost-effectiveness ratios include savings and participant costs from Green Motors Rewinds.
** Irrigation Energy Efficiency Sector cost-effectiveness ratios include savings and participant costs from Green Motors Rewinds.

Details on the cost-effectiveness assumptions and data are included in *Supplement 1: Cost-Effectiveness.*

Customer Satisfaction Surveys

Idaho Power does not separately survey most energy efficiency program participants each year. This is primarily due to a concern of over-surveying program participants and because the measures and specifics of most program designs do not change annually. To ensure meaningful research in the future, Idaho Power conducts program research periodically (every two to three years), unless there have been major program changes. Throughout 2018, Idaho Power administered several surveys regarding energy efficiency programs to measure customer satisfaction. Some surveys were administered by a third-party contractor; other surveys were administered by Idaho Power either through traditional paper or electronic surveys or through the company's Empowered Community online survey. Results of these studies are included in *Supplement 2: Evaluation.*

The sector-level results of the *2018 Burke Customer Relationship Survey* are available in each Sector Overview of this report: Residential, Commercial and Industrial, and Irrigation.

Evaluations

In 2018, Idaho Power contracted with Tetra Tech MA to conduct three program impact evaluations and one program process evaluation, DNV GL to conduct a program savings determination analysis,

Resource Action Programs to conduct two program summary analyses, and Aclara to conduct one program summary analysis. Impact evaluations were performed for Energy Efficient Lighting, Multifamily Energy Savings Program, and the Custom option of the Commercial and Industrial Energy Efficiency Program. A process evaluation was performed for the Multifamily Energy Savings Program and a savings determination analysis was conducted for the Shade Tree Project. Program summary analyses were performed for the Energy-Saving Kit Program, the Energy Wise Program, and the Home Energy Report pilot project. Idaho Power conducted internal analyses of the 2018 demand response events for A/C Cool Credit, Irrigation Peak Rewards, and Flex Peak Program.

A summary of each of these evaluations is available in the respective program section. An evaluation schedule and the final reports from evaluations and research completed in 2018 are provided in *Supplement 2: Evaluation*.

Residential Sector Overview

Idaho Power's residential sector consists of 460,717 customers; Idaho customers number 447,282 and eastern Oregon has 13,435. In 2018, the number of residential sector customers increased by 10,328, an increase of 2.3 percent from 2017. The residential sector represented 35 percent of Idaho Power's actual total electricity usage and 44 percent of overall revenue in 2018.

Table 7 shows a summary of 2018 participants, costs, and savings from the residential energy efficiency programs.

Table 7. Residential sector program summary, 2018

Program	Participants		Total Cost		Savings	
			Utility	Resource	Annual Energy (kWh)	Peak Demand (MW)
Demand Response						
A/C Cool Credit	26,182	homes	$ 844,369	$ 844,369		29
Total			**$ 844,369**	**$ 844,369**		**29**
Energy Efficiency						
Easy Savings: Low-Income Energy Efficiency Education	282	HVAC tune-ups	$ 147,936	$ 147,936	29,610	
Educational Distributions	94,717	kits/giveaways	3,180,380	3,180,380	16,051,888	
Energy Efficient Lighting	1,340,842	lightbulbs	2,435,130	3,277,039	18,856,933	
Energy House Calls	280	homes	160,777	160,777	374,484	
Fridge and Freezer Recycling Program	304	refrigerators/freezers	33,907	33,907	73,602	
Heating & Cooling Efficiency Program	712	projects	585,211	1,686,618	1,556,065	
Home Energy Audit	466	audits	264,394	321,978	211,003	
Home Energy Report Pilot Program	23,914	treatment size	194,812	194,812	3,281,780	
Multifamily Energy Savings Program	25	projects	205,131	205,131	655,953	
Oregon Residential Weatherization	5	audits	5,507	5,507		
Rebate Advantage	107	homes	147,483	355,115	284,559	
Residential New Construction Pilot Program	307	homes	400,912	926,958	777,369	
Shade Tree Project	2,093	trees	162,995	162,995	35,571	
Simple Steps, Smart Savings	7,377	appliances/ showerheads	90,484	133,101	241,215	
Weatherization Assistance for Qualified Customers	193	homes/non-profits	1,272,973	1,819,491	649,505	
Weatherization Solutions for Eligible Customers	141	homes	1,022,471	1,022,471	571,741	
Total			**$ 10,310,503**	**$13,634,216**	**43,651,278**	

Notes:
See Appendix 3 for notes on methodology and column definitions.
Totals may not add up due to rounding.

Marketing

Idaho Power ran a multi-faceted advertising campaign in the spring (April and May) and fall (October and November) to raise and maintain awareness of the company's energy efficiency programs for residential customers and to demonstrate that saving energy does not have to be challenging (Figure 14). The campaign utilized radio, television, newspaper advertisements (ads), digital ads, Facebook ads, *News Briefs* sent to the media, the *Connections* newsletter, and Idaho Power's website to reach a variety of customer demographics. New in 2018, the company added print publications, YouTube video ads,

Idaho Public TV, Google Ads, and digital ads at the Bogus Basin lodge. The company also continued the Smart-Saver Pledge sweepstakes (initiated in 2016) to engage and encourage customers to make an energy-saving behavior change.

Figure 14. Energy efficiency awareness campaign ad example

The company also continued to update individual program materials using the overall campaign imagery and theme to ensure a consistent look and feel among programs.

Below are Idaho Power's numerous marketing efforts to promote energy-saving tips and the company's energy efficiency programs, along with resulting data. Marketing tactics related to a specific sector or program are detailed in those respective sections later in this report.

Email

In May 2018, Idaho Power launched an effort to communicate via email with residential customers who had previously provided their addresses for a variety of reasons. An initial email was sent to 143,579 residential email addresses informing customers that Idaho Power will begin communicating with them via email and encouraging them to set their preferences to identify which categories of information they would like to receive emails about. The email categories included: company news, energy savings, green options, and ways to pay.

Idaho Power sent emails promoting the company's campgrounds, Energy-Saving Kits, paperless and auto pay, the Smart-Saver Pledge, energy-saving tips to prepare for winter, and a powering-the-holidays greeting. The emails had an average unique open rate of about 37 percent and an average unique click rate of about 4 percent. According to SendGrid's 2018 Global Email Benchmark Report, the aggregate open rate for energy and utilities is 31 percent and the aggregate click rate is 4.4 percent.

Figure 15. Idaho Power Smart-Saver Pledge email

Digital

Idaho Power placed ads on weatherbug.com and the WeatherBug app in the spring and in other online venues as part of the spring and fall campaign. The WeatherBug ads received 1,708,993 impressions (defined as the number of times an ad was displayed), 3,696 clicks, and a click-through rate (the percent of customers who clicked the ad and were directed to Idaho Power's Savings For Your Home web page) of 0.22 percent.

In the spring, web users were exposed to 1,785,483 display ads (image ads embedded into a website) based on their demographics, related to online articles they viewed or their use of a particular mobile web page or app. Users clicked on the ads 3,164 times, resulting in a click-through rate of 0.18 percent. In the fall, the display ads received 2,395,638 impressions and 2,393 clicks, resulting in a click-through rate of 0.10 percent.

Idaho Power began using Google search ads in 2018. When people search for terms related to energy efficiency, energy efficiency programs, and individual program measures, the company's ads appear and drive them to the appropriate energy efficiency web page. These ads received 9,643,409 impressions and

116,381 clicks throughout the year. The search terms with the highest engagement were Idaho Power, Idaho power company, idaho power, +Idaho +power rebates, smart thermostat, new +water +heater, idaho power boise, and tankless water heater.

Figure 16. Google search ad example

Idaho Power ran digital ads on radio station websites and on the television screens in the Bogus Basin Lodge during the 2017–2018 ski season. Idaho Power leveraged mobile geolocation services/technology to display digital ads to people in and around select movie theaters. These ads resulted in 243,736 impressions, 3,283 clicks and a click-through rate of 1.31 percent in the spring and 250,770 impressions, 962 clicks and a click-through rate of 0.38 percent in the fall. These digital ads ran in conjunction with on-screen and lobby ads playing within the theaters.

The company also ran ads on Pandora internet radio, YouTube, and Hulu. Those results can be found in the Radio and Television sections, respectively.

Television

Idaho Power used network television, Hulu, and YouTube advertising for the spring and fall campaign. The network television campaign focused on primetime and news programming that reaches the highest percentage of the target market: adults age 25 to 64.

During the spring campaign, an ad ran 1,959 times in the Boise, Pocatello, and Twin Falls media markets. The ads reached 71.5 percent of the Boise target audience, 60.1 percent of Twin Falls target audience, and 70.2 percent of the Pocatello target audience. The targeted customers saw the ad 9.9 times in Boise, 11.5 times in Twin Falls, and 8.3 times in Pocatello. Hulu ads delivered 419,083 completions, meaning that the ad was viewed in its entirety. YouTube video ads resulted in 534,620 impressions and 186,761 views.

During the fall campaign, the spot ran 1,609 times in the Boise, Pocatello, and Twin Falls media markets. The ads reached 68.6 percent of the Boise target audience, 41.3 percent of Twin Falls target audience, and 36.1 percent of the Pocatello target audience. The targeted customers saw the ad 5 times in Boise, 5.7 times in Twin Falls and 4.6 times in Pocatello. Hulu ads received 405,763 completions and YouTube video ads delivered 393,669 impressions and 146,206 views.

New in 2018, Idaho Power sponsored Idaho Public Television's *This Old House* and *Ask This Old House.* Fifty-two 15-second spots ran from April through September; the ads reached 7,634 households.

Radio

As part of its spring and fall campaign, Idaho Power ran 30-second radio spots on major commercial radio stations in the service area. To obtain optimum reach, the spots ran on a variety of station formats, including classic rock, news/talk, country, adult alternative, adult contemporary, and classic hits. The message was targeted toward adults age 25 to 64 throughout Idaho Power's service area.

Results of the spots are provided for the three major markets: Boise, Pocatello, and Twin Falls. During the spring campaign, Idaho Power ran 2,820 English radio spots. These spots reached 69.6 percent of the target audience in Boise, 81 percent in Pocatello, and 85.7 percent in Twin Falls. The target audience in Boise was exposed to the ad 7.6 times, 10.8 times in Pocatello, and 13.8 times in Twin Falls. During the fall campaign, the company ran 2,843 English radio spots. These spots reached 76.7 percent of the target audience in Boise, 47.4 percent of the target audience in Pocatello, and 90.4 percent of the target audience in Twin Falls. The target audience was exposed to the message eight times in Boise, 12.1 times in Pocatello, and 18.4 times in Twin Falls during the fall campaign.

Idaho Power also ran ads on Spanish-speaking radio stations and National Public Radio (NPR) stations in the service area. These ads ran 670 times in the spring and 732 times in the fall.

Idaho Power ran 30-second spots with accompanying visual banner ads on Pandora internet radio, which is accessed by mobile and web-based devices. In the spring, records show 1,049,382 impressions and 162 clicks to the Idaho Power residential energy efficiency web page. The fall ads yielded 1,055,222 impressions and 126 clicks. Other online radio ads resulted in 4,812 impressions and 164 clicks/plays.

Print

As part of the campaign, print advertising ran in the major daily and select weekly newspapers throughout the service area. The company also ran ads in the Idaho Shakespeare Festival program, Boise Hawks program, *Territory Magazine*, *Idaho Magazine*, Broadway in Boise program, and *Sun Valley Magazine*. The ads highlighted individual energy efficiency program options, such as how to get a home energy audit or the benefits of installing a DHP. The ads informed customers that Idaho Power can help them save energy and money regardless of whether they own or rent. The ads were scheduled for 2,168,892 impressions in 2018.

In 2018, Idaho Power developed a spiral-bound guide outlining each of the residential energy efficiency programs, tips, and resources. The guide was included in Welcome Kits mailed out to 30,500 new customers, provided to Weatherization Assistance customers, and handed out at a variety of events including the Building Owners and Managers Association (BOMA) Symposium, Idaho Remodeling & Design Show, Incredible Age Expo, FitOne^{SM} Expo, Smart Women Smart Money, Eastern Idaho Fair, Portneuf Environmental Fair, home shows in Pocatello, Twin Falls, Boise and Nampa, and more.

Social Media

Idaho Power's Facebook ads averaged 424,248 impressions and received 11,492 link clicks during the spring energy efficiency campaign. During the fall campaign, Facebook ads averaged 284,655 impressions and resulted in 1,384 link clicks, per available data. Due to a lapse in Facebook reporting, data for one November ad is not available, bringing the total impression and link click data down

significantly. Fall campaign results may also be lower than previous months (2017 and 2018 campaigns) due to saturation of the market. In targeting the same service area with the same ads over multiple months, Facebook users may have started to scroll past the familiar ad rather than engage. Throughout the year, Idaho Power used Facebook posts and boosted posts for various programs.

Public Relations

Many of the company's PR activities focused on the residential sector. Energy-saving tips videos, TV segments, *News Briefs* content and *Connections* newsletter articles often aim to promote incentive programs and/or educate customers about behavioral or product changes they can make to save energy in their homes. Idaho Power also promoted the Smart-Saver Pledge, including outreach in *Connections*, *News Briefs*, and through regional TV segments.

See the Program Activity section and the Commercial and Industrial Sector Overview for more 2018 PR activities.

Empowered Community

In 2015, Idaho Power created the Empowered Community, an online community of residential customers, to measure customer perceptions on a variety of company-related topics, including energy efficiency. The community has almost 1,800 actively engaged members from across Idaho Power's service area. On average, Idaho Power sends one survey per month to active members. In 2018, Idaho Power included 11 energy efficiency messages with survey invitations to members resulting in over 8,700 touchpoints.

Email Test

In March and April, the company ran a pilot program with a subset of Empowered Community participants who agreed to receive and review a set of four emails and corresponding surveys within a month period. Participants received a text-only email introducing Idaho Power's email plans, an email promoting ESKs that included a combination of text and images, an image-only email promoting paperless billing, and an email with a link to a video about linemen saving a bee colony.

After each email, participants were asked if they received the email or if it ended up in a junk or spam inbox and about their overall impression of the email—if the length was appropriate, whether the call to action was clear, and their impression on the format (i.e., text, image, video or a combination thereof). Responses varied for each of the four emails tested, but overall, participants felt that the emails were clear and concise, included a good mix of images, text, and video, and left them with a neutral or positive impression.

Smart-Saver Pledge Sweepstakes

In 2018, Idaho Power continued the Smart-Saver Pledge sweepstakes to encourage customers in Idaho to make energy-saving changes. The sweepstakes ran from October 1 through November 20. Customers were asked to commit to making an energy-saving change for 21 days, choosing one of the following actions: change the porch light to an LED or add a timer, use a programmable pressure cooker once a week instead of the oven or stove, hang-dry clothes after washing, unplug the cell phone charger when not in use, or use kitchen and bath exhaust fans only when needed. In return, pledge participants were entered to win an ENERGY STAR® electric appliance.

Idaho Power promoted the pledge primarily with a bill insert and email. The bill inserts (Figure 17) went to 318,326 customers and included a sign-up form on the back for customers to mail in. The email was sent to approximately 147,000 customers and included a link to the online sign-up form. The pledge was also promoted through Facebook and Twitter posts. Additional promotion included *News Briefs*, the October issue of *Connections*, and a television news segment on KTVB where customers were directed to sign up on the Smart-Saver Pledge web page.

Figure 17. Smart-Saver Pledge bill insert

Idaho Power received 4,486 pledges throughout the pledge period and a few additional pledges after the pledge ended. In 2017, the company received fewer than 1,000 pledges. In addition to the greatly increased number of participants, the company received positive feedback from customers about the pledge and their energy habits. One customer stated, "Good for Idaho Power in trying to help people use less energy." The company believes the participants were highly engaged and that the results were generally positive.

Customers were asked to complete a follow-up survey as part of the pledge. In return, participants were entered to win a $100 Visa gift card. The company received 2,302 responses to the follow-up survey in 2018 (about 51 percent of pledge participants). In 2017, the survey response rate was 42 percent. Highlights include the following:

- Over 94 percent of respondents fulfilled all 21 days of their pledge.
- Of the respondents who answered the question regarding whether they would continue their energy-saving changes, all but six planned to continue with the energy-saving changes after the pledge ended.
- Just over 61 percent of respondents indicated they were "very likely" to seek out additional ways to save energy.
- After taking the pledge, over 97 percent of respondents were "somewhat likely" or "very likely" to participate in an Idaho Power energy efficiency program.

A copy of the full survey results can be found in *Supplement 2: Evaluation*.

Customer Satisfaction

Idaho Power conducts the Burke Customer Relationship Survey each year. In 2018, 64 percent of residential survey respondents indicated Idaho Power is meeting or exceeding their needs with information on how to use energy wisely and efficiently.

Sixty-six percent of residential respondents indicated Idaho Power is meeting or exceeding their needs by encouraging energy efficiency with its customers. Fifty-three percent of Idaho Power residential customers surveyed indicated the company is meeting or exceeding their needs in offering energy efficiency programs, and 41 percent of the residential survey respondents indicated they have participated in at least one Idaho Power energy efficiency program. Of the residential survey respondents who have participated in at least one Idaho Power energy efficiency program, 90 percent are "very" or "somewhat" satisfied with the program.

Based on surveys conducted in the last six months of 2017 and the first six months of 2018, Idaho Power ranked second out of 14 utilities included in the west region midsize segment of *the J.D. Power and Associates 2018 Electric Utility Residential Customer Satisfaction Study*. Fifty-two percent of the residential respondents in this study indicated they were aware of Idaho Power's energy efficiency programs, and on an overall basis, those customers were more satisfied with Idaho Power than customers who are unaware of the programs.

See the individual programs for program-specific customer satisfaction survey results.

A/C Cool Credit

	2018	2017
Participation and Savings		
Participants (homes)	26,182	28,214
Energy Savings (kWh)	n/a	n/a
Demand Reduction (MW)	29	29
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	$433,659	$495,142
Oregon Energy Efficiency Rider	$36,425	$39,493
Idaho Power Funds	$374,285	$401,637
Total Program Costs—All Sources	$844,369	$936,272
Program Levelized Costs		
Utility Levelized Cost ($/kWh)	n/a	n/a
Total Resource Levelized Cost ($/kWh)	n/a	n/a
Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	n/a	n/a
Total Resource Benefit/Cost Ratio	n/a	n/a

Description

Originating in 2003, A/C Cool Credit is a voluntary, dispatchable demand response program for residential customers in Idaho and Oregon. Using communication hardware and software, Idaho Power cycles participants' central air conditioning (A/C) units or heat pumps off and on via a direct load control device installed on the A/C unit. This program enables Idaho Power to reduce system capacity needs during times when summer peak load is high.

Customers' A/C units are controlled using switches that communicate by powerline carrier (PLC). The switch is installed on each participating customer's A/C unit and allows Idaho Power to control the unit during a cycling event.

The cycling rate is the percentage of an hour that the A/C unit will be turned off by the switch. For instance, with a 55 percent cycling rate, the switch should be off for about 33 (nonconsecutive) minutes of each hour. Idaho Power tracks the communication levels to validate whether the signal reaches the switches. There are many reasons why Idaho Power's PLC cannot communicate with a switch. The switch may be disconnected, an A/C unit may not be powered on, the switch may be defective, or the participant's household wiring may prevent communication. Sometimes it is difficult for the company to detect why the switch is not communicating. At the end of the season, Idaho Power evaluates event reductions using methodologies consistent with those established in prior third-party evaluations.

These are the program event guidelines:

- June 15 through August 15 (excluding weekends and July 4)
- Up to four hours per day

- A maximum of 60 hours per season
- At least three events per season

Program Activities

In 2018, about 26,000 customers participated in the program. Four cycling events occurred, and all were successfully deployed (Table 8). The cycling rate was 55 percent and the communication level exceeded 94 percent for each event. The incentive remained $15 per season, paid as a $5 bill credit on the July, August, and September bills.

Table 8. A/C Cool Credit demand response event details

Event Details	Monday, July 16	Wednesday, July 25	Tuesday, July 31	Monday, August 6
Event time	4–7 p.m.	4–7 p.m.	4–7 p.m.	4–7 p.m.
Average temperature	93°F	98°F	96°F	89°F
Maximum load reduction (MW)	29	27.3	27.3	10.4

For the third event, Idaho Power believes that the low results were partially due to low A/C use at the time of the event. In addition, the methodology used to determine the amount of reduction achieved for the event compared recent historical usage patterns to that of the event day. These results may be understated because the customers' use patterns from the prior ten days did not align well with the customer usage patterns on the day of the event, causing the savings to appear lower. For the fourth event, the lower reduction for this event corresponds to the cooler temperatures.

Marketing Activities

Per the settlement agreement reached in Idaho Case No. IPC-E-13-14 and Oregon Case No. UM 1653, Idaho Power did not actively market the A/C Cool Credit program in 2018. Idaho Power communicated with participants in an effort to retain them and with customers who moved into a home where a switch was present in an effort the utilize the installed equipment.

Before the cycling season began, Idaho Power sent current participants a postcard reminding them of the program specifics. Idaho Power also attempted to recruit customers who had moved into a home that already had a load control device installed and previous participants who changed residences to a location that may or may not have a load control device installed. The company used postcards, phone calls, direct-mail letters, and home visits (leaving door hangers for those not home) to recruit these customers. At the end of the summer, a thank-you postcard was sent to program participants.

Cost-Effectiveness

Idaho Power determines cost-effectiveness for its demand response program under the terms of IPUC Order No. 32923 and OPUC Order No. 13-482. Under the terms of the orders and the settlement, all of Idaho Power's demand response programs were cost-effective for 2018.

The A/C Cool Credit program was dispatched for four events (totaling 12 event hours) and achieved a maximum demand reduction of 29.1 MW. The total expense for 2018 was $844,369 and would have remained the same if the program was fully used for 60 hours because there is no variable incentive paid for events beyond the three required events.

A complete description of Idaho Power cost-effectiveness of its demand response programs is included in *Supplement 1: Cost-effectiveness.*

Evaluations

Each year, Idaho Power internally evaluates the program reductions by determining the three days with the highest usage, out of the 10 days prior to an event, and comparing their usage to the event day usage. The baseline methodology performed as expected for three of the four events, but the third event on July 31 was lower than expected partially due to misalignment of the baseline days and the event day. The complete report is available in *Supplement 2: Evaluation*.

2019 Program and Marketing Strategies

Idaho Power does not anticipate any program changes in 2019.

Per the terms of the above-mentioned settlement agreements, Idaho Power will not actively market the A/C Cool Credit program to solicit new participants but will accept them upon request, regardless of whether they previously participated. Attempts will continue to be made to recruit previous participants who have moved, as well as new customers moving into homes that already have a load control device installed.

Easy Savings: Low-Income Energy Efficiency Education

	2018	2017
Participation and Savings		
Participants (coupons/kits)*	282	2,470
Energy Savings (kWh)	29,610	280,049
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	$0	$0
Oregon Energy Efficiency Rider	$0	$0
Idaho Power Funds	$147,936	$149,813
Total Program Costs—All Sources	$147,936	$149,813
Program Levelized Costs		
Utility Levelized Cost ($/kWh)	$1.37	$0.064
Total Resource Levelized Cost ($/kWh)	$1.37	$0.064
Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	n/a	n/a
Total Resource Benefit/Cost Ratio	n/a	n/a

*In 2017–2018, the program transformed from energy-savings kits to electric heating system tune-up coupons.

Description

As a result of IPUC Case No. IPC-E-08-10 and Order Nos. 30722 and 30754, Idaho Power committed to fund energy efficiency education for low-income customers and provide $125,000 to Community Action Partnership (CAP) agencies in the Idaho Power service area annually, on a prorated basis. These orders specified that Idaho Power provide educational information to Idaho customers who heat their homes with electricity.

From 2009 to 2017, using CAP agency personnel, the program distributed energy-saving kits and corresponding educational materials to participants of the Low Income Home Energy Assistance Program (LIHEAP) who heat their homes with electricity. In 2017, with input from a planning committee consisting of representatives from Community Action Partnership Association of Idaho (CAPAI), CAP Agencies, and the IPUC, Idaho Power discontinued kit distribution and offered a pilot incentive: a coupon for a free HVAC tune-up and one-on-one education with the goal of reducing the energy costs for LIHEAP participants. Contractors were reimbursed up to $300 per redeemed coupon.

Though this report discusses other program activities based on the calendar year, the following program information summarizes activities based on the federal fiscal year because CAP agencies use the fiscal LIHEAP program cycle.

Program Activities

By November 1, 2018, 659 coupons were distributed and 282 were redeemed by customers for heating system tune-ups. Of the $125,000 Idaho Power allotted to CAP Agencies for this pilot, $68,368 was paid to HVAC contractors for their service. Since this was a pilot, the unused funds were designated to provide additional coupons in 2018–2019 program year. Coupons expire at the end of the 2019 program year; no other conditions apply.

To participate, regional HVAC company owners were required to sign the Contractor Guidelines and acknowledge the two-fold goal of the pilot: customer education and equipment tune-up. During the customer visit, HVAC contractors performed the tune-up and taught residents how to change furnace filters. They also explained how regular maintenance improves overall performance and answered questions about the specific heating equipment and ways to save energy. The contractor left behind a customer satisfaction survey that could be mailed to CAPAI or completed online; respondents were entered into a drawing for a gift card.

The planning committee found that the $300-maximum per coupon was frequently inadequate to address all of the costs associated with minor tuning and/or repairing the heating systems. Customers were then referred to the CAP agencies to apply for additional assistance. These referrals caused an unintended strain on weatherization budgets. The Planning Committee also found that limiting eligibility to LIHEAP participants made it difficult to distribute the coupons because CAP agencies are busy assisting people during energy assistance season. As a result, the maximum per-coupon amount was increased to $600 in mid-2018.

Marketing Activities

The Easy Savings pilot is included under “Savings For Your Home” on the Idaho Power website in the “Income Qualified Customers” section.

Cost-Effectiveness

Idaho Power started tracking cost-effectiveness ratios for the program in 2015 when the company began claiming savings for the program. However, since the purpose of Easy Savings is primarily an educational and marketing program, the company determined that, like the Home Energy Audit program, the traditional cost-effectiveness tests should not apply. The cost-effectiveness goal of the program is to find trackable energy savings opportunities while maintaining the educational program mandate.

The Easy Savings HVAC coupon claimed 105 kWh of annual savings for each qualifying customer with air conditioning. The savings value is sourced to the 2016 energy efficiency potential study.

Customer Satisfaction

Information and comments gathered from the 2017–2018 customer survey show that most of the coupons were redeemed by customers during the month of September followed by March and January. October, December, and May had the lowest redemption rate.

Of the 141 surveys returned to CAPAI, 111 customers reported that the contractor demonstrated how to safely change filters. Ninety customers reported that the contractor recommended ways to save energy such as changing furnace filters, properly programming the thermostat, using a ceiling fan instead of air conditioning in the summer, and opening blinds during the day and closing them at night in the winter. One hundred eighteen respondents pledged to change furnace filters as recommended and 71 described other changes they made based on program recommendations.

One hundred seventeen participants reported they were very satisfied with the program and nine were somewhat satisfied.

2018–2019 Program and Marketing Strategies

The planning committee and participating regional HVAC contractors agreed to support Easy Savings a second year as Pilot #2 with these improvements:

1. Increase the maximum dollar amount available to contractors per customer visit to $600. This increase will allow the HVAC contractor to leave behind extra furnace filters and to make minor repairs to furnaces, air conditioners, and heat pumps while providing educational information.
2. Expand eligibility beyond LIHEAP recipients to all Idaho Power customers with electric heat systems who have participated in other income-specific programs in the past four years or to those on the waiting list for weatherization services. This will allow Easy Savings to reach more customers, provide interim assistance while customers wait for weatherization, and help extend the life of HVAC equipment previously installed with weatherization program funding.

Idaho Power revised the coupon and mailed them to CAP agencies in November 2018 for the 2018–2019 program year. Funding came from a combination of unused 2017–2018 and current-year 2018–2019 sources.

Educational Distributions

	2018	2017
Participation and Savings		
Participants (kits/lightbulbs)	94,717	84,399
Energy Savings (kWh)	19,333,668	21,187,261
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	$3,307,782	$3,323,024
Oregon Energy Efficiency Rider	$67,409	$141,860
Idaho Power Funds	$0	$1,143
Total Program Costs—All Sources	$3,375,192	$3,466,027
Program Levelized Costs		
Utility Levelized Cost ($/kWh)	$0.019	$0.016
Total Resource Levelized Cost ($/kWh)	$0.019	$0.016
Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	2.68	3.02
Total Resource Benefit/Cost Ratio	4.51	6.33

*Program savings include Home Energy Report pilot program savings.

Description

Designated as a specific program in 2015, the Educational Distributions effort is administered through the Residential Energy Efficiency Education Initiative and seeks to use low-cost and no-cost channels to deliver energy efficiency items with energy savings directly to customers. As with the initiative, the goal for these distributions is to drive behavior change and create awareness of and demand for energy efficiency programs in Idaho Power's service area.

Idaho Power selects items for distribution if the initial analysis indicates the measure is either currently cost-effective or expected to be cost-effective. Typically, selected items have additional benefits beyond traditional energy savings, such as educating customers about energy efficiency, expediting the opportunity for customers to experience newer technology, or allowing Idaho Power to gather data or validate potential energy savings resulting from behavior change.

Idaho Power recognizes the need to educate and guide customers to promote behavior change and awareness and will plan program activities accordingly. Items may be distributed at events and presentations, through direct-mail, or during home visits conducted by customer representatives.

Energy-Saving Kits

Idaho Power knows that managing household energy use can be a challenge. To help make it easier for families, Idaho Power works with a kit vendor to offer two versions of its free ESKs: one for homes with electric water heaters and one for homes with alternate-source water heaters. Customers enroll at idahopower.com/save2day, by calling 800-465-6045, or by returning a postcard. A kit is sent directly to the customer's home.

Each ESK contains nine LED lightbulbs (six 800-lumen lightbulbs and three 480-lumen lightbulbs), a digital thermometer (to check refrigerator, freezer, and water temperatures), a shower timer, a water

flow-rate test bag, an LED night light, and educational materials. In addition, the kit for homes with electric water heaters contains a high-efficiency showerhead with a thermostatic shower valve (TSV) and three faucet aerators.

Figure 18. Idaho Power's Energy-Saving Kit for homes with electric water heaters

Energy-Saving Kits as Giveaways

Idaho Power offers ESKs as giveaways, in limited quantities, at presentations and small events to garner additional interest in energy efficiency and to encourage immediate action and behavior change. In these circumstances, Idaho Power cannot confirm the source of water heating in the recipient's home or whether the recipient has already received a kit. Therefore, this version of ESK given away is the more basic version for homes with alternate-source water heaters; energy savings is garnered from lighting changes that are not dependent on the source of water heat.

Home Energy Report Pilot

In 2018, Idaho Power continued working with a third-party contractor, Aclara Technologies LLC (Aclara), to pilot the HER program. The objective of the HER pilot is to encourage customer engagement with electricity use in order to produce average annual behavioral savings of 1 to 3 percent. Secondary objectives are to maintain or increase customer satisfaction and obtain information to inform decisions around scalability, projected savings, best target audiences, and other possible program activities in the future.

The periodic reports provide customers with information about how their home's energy use compares with similar homes. The *Home Energy Reports* also give a breakdown of household energy use and

offers suggestions to help customers change their energy-related behaviors. Aclara statistically estimates energy savings that result from customers receiving the report by comparing the energy use of the report recipients against the energy use of a similar control group.

LED Lightbulbs as Giveaways

Giving away LED lightbulbs is an effective way to connect Idaho Power with its customers and begin productive conversations around energy efficiency. Idaho Power field staff and energy efficiency program specialists seek opportunities to educate customers about LEDs, and to offer customers a free lightbulb to use immediately in their own homes.

Student Energy Efficiency Kit Program

The SEEK program provides fourth- to sixth-grade students in schools in Idaho Power's service area with quality, age-appropriate instruction regarding the wise use of electricity. Each child who participates receives an energy efficiency kit. The products in the kit are selected specifically to encourage energy savings at home and engage families in activities that support and reinforce the concepts taught at school.

Once a class enrolls in the program, teachers receive curriculum and supporting materials. Students receive classroom study materials, a workbook, and a take-home kit containing the following:

- Three LED lightbulbs
- A high-efficiency showerhead
- An LED nightlight
- A furnace filter alarm
- A digital thermometer for measuring water and refrigerator/freezer temperatures
- A water flow-rate test bag
- A shower timer

At the conclusion of the program, students and teachers return feedback to Idaho Power's vendor indicating how the program was received and which measures were installed. The vendor uses this feedback to provide a comprehensive program summary report showing program results and savings.

Unlike most residential programs offered by Idaho Power, SEEK results are reported on a school-year basis, not by calendar year.

Welcome Kits

Idaho Power uses a vendor to mail Welcome Kits to brand new customers between 35 and 45 days after electric service begins at their residence. Each kit contains four LED lightbulbs, a nightlight, a greeting card and a small flip-book containing energy-saving tips and information about Idaho Power's energy efficiency programs. The kits are intended to encourage first-time customers to adopt energy-efficient behaviors early in their new homes.

Program Activities

Energy-Saving Kits

In 2018, 44,691 kits were shipped to customer homes: 18,383 kits to homes with electric water heaters and 26,308 to homes with alternate-source water heaters. The kits for homes with electric water heaters continued to include an integrated high-efficiency showerhead with a TSV. TSVs reduce the behavioral waste caused by letting the water run unchecked while it warms up. With a TSV, water flow is automatically reduced to a trickle when the water reaches 95°F, sending a signal that the water is ready. Once in the shower, the customer simply pulls a toggle string to resume normal water flow.

Kits were distributed to all geographic regions within Idaho Power's service area: 43,849 to Idaho residences and 842 to Oregon homes.

Energy-Saving Kits as Giveaways

Field staff across Idaho Power's five regions distributed 700 giveaway kits at presentations, small events, and customer visits. The kits were particularly popular and appreciated by senior homeowners who had the opportunity to receive them at events sponsored by senior centers.

Home Energy Report Pilot

Idaho Power, in partnership with Aclara, completed its first full year of the HER pilot program on July 31, 2018.

The pilot was designed based on standard randomized control trial (RCT) methodology with treatment and control groups sized appropriately to detect statistically significant savings at or above 1.2 percent, and allowing for approximately 10 percent attrition over the pilot period. Customers identified to receive customized *Home Energy Reports* were divided into two distinct groups: the HER year-round group and the HER winter-heating group.

The primary difference between reports was the tips and advice for the winter-heating group focused on heating suggestions, whereas tips and suggestions for the year-round group contained a wide-range of topics including air-conditioning.

To finish year one of the pilot, the HER year-round group (approximately 19,100 customers) continued to receive bi-monthly reports in February, April and June, and the winter-heating group (approximately 7,900 customers) received reports in January and February.

The first-year results showed estimated energy savings for the treatment period to be statistically significant for the winter-heating group with participants using an average of 207 fewer kWh per home than their control group counterparts—a savings of 1.5 percent. For participants in the year-round group estimated savings for the period appeared to be statistically significant at about 150 kWh per home (between 1.3 and 1.7 percent below the control group), but only for those using more than 9,000 kWh per year. Within the year-round group, the participants using more than 12,000 kWh annually saw the greatest aggregate kWh savings, while the participants using between 9,000 and 12,000 kWh reduced their use by a higher overall percentage.

Idaho Power's customer solutions advisors responded to 411 HER pilot-related phone calls and inquiries during the first year. The participant-driven opt-out rate was low at .64 percent. In spite of this, the pilot experienced higher-than-expected attrition—15 percent (includes opt-outs, move-outs, etc.).

The customer satisfaction numbers, as collected through a small-sample telephone survey appeared to be favorable.

At the conclusion of the pilot's first year, the company decided to extend it for another year to gather additional information prior to making final decisions regarding scalability. The year-round group was optimized for savings using algorithms provided by the vendor. A new winter-heating group was added to test the effectiveness of a bi-monthly delivery schedule compared to year one's four-report schedule. Additionally, remaining first-year participants were divided into two report-delivery schedules: one receiving bi-monthly and one receiving quarterly reports.

LED Lightbulbs as Giveaways

In 2018, Idaho Power customer representatives delivered educational messages and lightbulbs to seniors in Pocatello, Boise, Nampa, Caldwell, and Payette, Idaho and Nyssa, Ontario, and Vale, Oregon. Participants at the Idaho Remodeling and Design Show, the Idaho Housing and Economic Development Conference, Earth Day events, and employee sustainability and safety fairs in Meridian, Caldwell, Nampa, and Pocatello received lightbulbs, too. Idaho Power was also present with an educational message and LED lightbulbs at Boise's Heart Walk, Meridian Business Days, American Falls Days, Chubbuck Days, and several school district-sponsored events across the service area. Lightbulbs were also distributed at the Smart Women, Smart Money Conference; The Incredible Age Expo; the FitOne^{SM} Expo; Idaho Power Shade Tree Project events; and at presentations for chambers of commerce, scout groups, and other community and civic organizations.

By the end of the year, Idaho Power employees had personally delivered a brief energy efficiency message and distributed 9,450 lightbulbs directly to customers.

Student Energy Efficiency Kit Program

During the 2017 to 2018 school year, Idaho Power community education representatives actively recruited fourth- to sixth-grade teachers to participate in SEEK. As a result, Resource Action Programs (RAP) delivered 9,439 kits to 332 classrooms in 122 schools within Idaho Power's service area. This resulted in 1,994 MWh of savings.

Welcome Kits

In January, Idaho Power partnered with a third-party vendor, Tinker Programs, to design, build, and distribute a smaller energy efficiency kit. Kits began shipping in February and almost 31,000 kits had been delivered by year-end. Feedback received to-date via social networks and email indicate the kits are well-received.

Figure 19. Example of a customer's social media response to Idaho Power's Welcome Kit

Marketing Activities

Energy-Saving Kits

Marketing efforts included three direct-mail campaigns from the kit vendor: one to about 50,000 customers in January, a second to about 48,000 customers in April, and a third to about 88,000 customers in September. Direct-mail efforts continue to yield enrollments of approximately 18 to 20 percent. Kits continued to be showcased at trade shows throughout the service area and 6,250 bookmarks highlighting instructions on how to order the kit were distributed at events and presentations. Numerous social media posts were used to bolster program awareness. The posts were shared by customers, increasing word of mouth marketing and helping to further promote activity (Figure 20).

Figure 20. Social media post from environmentally focused customer who received ESK

The kit was promoted to recipients of the *Home Energy Reports* in February/March (to those who hadn't already received a kit). It was also featured in two video segments: one Idaho Power representative appearance on KMVT in the Magic Valley (March) and in an Idaho Power produced video on home winter savings that ran on YouTube and Facebook.

The kit was prominently mentioned in the energy efficiency campaign TV and radio commercials that aired during March/April and October/November. Email marketing was a new option for Idaho Power in 2018, so in July and August, 88,000 customers who hadn't yet received a kit received an email promoting it. 29,379 customers opened the email; 5,936 of those who opened the email clicked through to the kit web page.

Energy-Saving Kits as Giveaways

Idaho Power field staff educated customers about energy efficiency by offering a free ESK with educational items and LED lightbulbs to get them started and on their way to saving energy.

Home Energy Report Pilot

Because the HER pilot program is based on the RCT methodology, the reports cannot be requested by customers, therefore the pilot is not marketed. The periodic reports were, however, used to cross-market Idaho Power's other energy efficiency programs.

LED Lightbulbs as Giveaways

In 2018, Idaho Power field staff and energy efficiency program specialists continued to seek opportunities to educate customers about LEDs and offer customers a free LED lightbulb to use immediately in their own homes.

Student Energy Efficiency Kit Program

At the onset of the 2017–2018 school year, Idaho Power community education representatives began using emails in conjunction with flyers to recruit new fourth- to sixth-grade teachers to participate in SEEK.

Welcome Kits

The Welcome Kits are not requested by customers; therefore, they are not marketed. Instead, each week Idaho Power sends a list of new customers to the vendor who fulfills the order.

Cost-Effectiveness

In situations where Idaho Power managed the energy efficiency education and distribution through existing channels, the cost-effectiveness calculations were based on the actual cost of the items. Conversely, if outside vendors were used to assist with distribution, the cost-effectiveness calculations included all vendor-related charges.

Energy-Saving Kits

The RTF provides mail-by-request deemed savings for LED lightbulbs, the integrated high-efficiency showerheads with a TSV, and faucet aerators. The RTF mail-by-request deemed savings values are discounted to reflect the potential that all of the kit items may not be installed. The LED lightbulbs each have a deemed savings value of 8.2 kWh per year. The integrated 1.75 gallon per minute (gpm) low-flow showerhead with TSV saves approximately 240 kWh annually. Because there were no deemed savings from the RTF for faucet aerators, Idaho Power looked to the Energy Trust of Oregon (ETO) which runs a similar kit program for residential customers in Oregon. However, the RTF met in July 2018 and deemed an energy savings value for faucet aerators. Those numbers will be used in 2019. Based on installation rates from participant surveys, ETO claimed 134 kWh for kitchen faucet aerators and 75 kWh for bathroom faucet aerators. Idaho Power reviewed the results of the three-month follow up survey sent to ESK participants and found that the installations rates were similar to ETO's.

The annual savings for an ESK for a home with an electric water heater is approximately 598 kWh. The annual savings for a kit for a home with a non-electric water heater is approximately 74 kWh.

Energy-Saving Kits as Giveaways

The giveaway kits contain the same measures as the non-electric ESK. For the nine LED lightbulbs included in the kit, Idaho Power used the RTF's giveaway deemed savings value of 8.2 kWh per bulb. The annual savings for each giveaway kit is approximately 74 kWh.

Home Energy Report Pilot

Before starting the pilot, the HER pilot program benefit cost-ratios were expected to be between 0.90 and 0.95 assuming 1.5 percent average savings across all treatment groups. The program is cost-effective looking at program year savings (July 2017-July 2018) and 2018 calendar year expenses even while only claiming a one-year savings life.

LED Lightbulbs as Giveaways

For the LED giveaways, Idaho Power used the giveaway deemed savings provided by the RTF. The RTF-deemed annual savings of 8.2 kWh includes assumptions regarding the installation rate, efficiency levels of the existing lightbulb, and the location of the installation.

Student Energy Efficiency Kit Program

The cost-effectiveness analysis for the SEEK offering was based on the savings reported by RAP during the 2017 to 2018 school year. RAP calculated the annual savings based on information collected from the participants' home surveys and the installation rate of the kit items. Questions on the survey included

the number of individuals in each home, water-heater fuel type, flow rate of old showerheads, and the wattage of any replaced lightbulbs. The response rate for the survey was approximately 56 percent. The survey gathers information on the efficiency level of the existing measure within the home and which measure was installed. The energy savings will vary for each household based on the measures offered within the kit, the number of items installed, and the existing measure that was replaced. Based on the feedback received from the 2017 to 2018 school year, RAP projects that each kit saved approximately 211 kWh annually per household on average, and the program saved 1,993,950 kWh annually. A copy of the report is included in *Supplement 2: Evaluation*.

Welcome Kits

For the four LED lightbulbs included in the kit, Idaho Power used the RTF's giveaway deemed savings value of 8.2 kWh per bulb. The annual savings for each kit is approximately 33 kWh.

2019 Program and Marketing Strategies

Energy-Saving Kits

Idaho Power will continue offering ESKs in 2019. Promotional materials will be readily available for all customer-facing employees to use at their discretion. The company's social media posts, website, and other advertising will promote ESKs. Targeted direct-mail campaigns will also be employed.

Energy-Saving Kits as Giveaways

Idaho Power will continue to give away limited quantities of the basic kit for homes with alternate-source water heaters at presentations and small events to garner interest in energy efficiency.

Home Energy Report Pilot

Estimated savings and customer satisfaction will continue to be closely monitored. An expanded telephone survey will be conducted in the spring and a full review of customer satisfaction and estimated savings results for year two of the pilot will take place in July/August of 2019. Based on results, the company will finalize the design and decide whether to continue and/or scale the HER pilot.

LED Lightbulbs as Giveaways

Idaho Power plans to continue offering LED lightbulbs during customer visits and at a limited number of community events and presentations.

Student Energy Efficiency Kit Program

Plans for the 2018 to 2019 school year include updating the marketing flyer and marketing email for distribution to more remote schools and districts. The company will continue to leverage the positive relationships Idaho Power's community education representatives have within the schools to maintain program participation levels. It will also work with the vendor to pilot an alternative recruiting strategy in the Twin Falls area—with the vendor reaching out directly to eligible schools. Curriculum will be reviewed for continued relevance to state standards.

Welcome Kits

In 2019, Idaho Power will continue to offer Welcome Kits to first-time customers. The Welcome Kit will cross-promote other energy efficiency programs and encourage new customers to adopt energy-efficient behaviors upon moving into their new homes.

Other Educational Distributions

Idaho Power will continue to look for opportunities to engage customers with new technologies that stress the importance of energy-efficient behaviors at home. Idaho Power is also looking at alternative measures that may sustain the kit programs as lighting savings mature.

Energy Efficient Lighting

	2018	2017
Participation and Savings		
Participants (lightbulbs)	1,340,842	1,766,758
Energy Savings (kWh)	18,856,933	37,765,190
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	$2,343,127	$4,787,259
Oregon Energy Efficiency Rider	$92,003	$84,223
Idaho Power Funds	$0	$1,406
Total Program Costs—All Sources	$2,435,130	$4,872,888
Program Levelized Costs		
Utility Levelized Cost ($/kWh)	$0.011	$0.012
Total Resource Levelized Cost ($/kWh)	$0.014	$0.026
Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	4.67	4.09
Total Resource Benefit/Cost Ratio	6.64	4.63

Description

Idaho Power and other regional utilities participate in the Simple Steps, Smart Savings™ program which is managed by CLEAResult®. Idaho Power promotes Simple Steps, Smart Savings offerings to customers in two areas: this lighting program and the appliance promotion program (see the Simple Steps, Smart Savings section of this report).

Initiated in 2002, the Energy Efficient Lighting program follows a markdown model that provides incentives directly to manufacturers or retailers, with discounted prices passed on to the customer at the point of purchase. The benefits of this model are low administration costs, better availability of products to the customer, and the ability to provide an incentive for specific products. The program goal is to help Idaho Power's Idaho and Oregon residential customers afford more efficient lighting technology.

ENERGY STAR® lightbulbs are a more efficient alternative to standard incandescent and halogen incandescent lightbulbs. Lightbulbs come in a variety of wattages, colors, and styles, including lightbulbs for three-way lights and dimmable fixtures. ENERGY STAR lightbulbs use 70 to 90 percent less energy and last 10 to 25 times longer than traditional incandescent lightbulbs.

Idaho Power pays CLEAResult a fixed amount for each kWh of energy savings achieved. A portion of the funding Idaho Power provides is used to buy down the price of the product, and a portion is applied to program administration and marketing which varies and can be used for retailer promotions. Promotions include special product placement, additional discounts, and other retail merchandising tactics designed to increase sales.

In addition to managing the program's promotions, CLEAResult is responsible for contracting with retailers and manufacturers, providing marketing materials at the point of purchase, and supporting and training retailers.

Program Activities

In 2018, LED lightbulbs comprised 92 percent of the program's sales for the year, an increase from the 90 percent of lightbulb sales in 2017. LED fixtures comprised approximately 8 percent of program sales, which was an increase from the 5 percent of program sales in 2017.

In 2018, through the Bonneville Power Administration (BPA) Simple Steps, Smart Savings program, Idaho Power worked with 15 participating retailers, representing 99 individual store locations throughout its service area. Of those participating retailers, 48 percent were smaller grocery, drug, and hardware stores, and the remaining 52 percent were large retailers.

Marketing Activities

Several Simple Steps, Smart Savings promotions were conducted through CLEAResult at retail stores in 2018. These promotions generally involved special product placement and signs. CLEAResult staff continued to conduct monthly store visits in 2018 to check stock, point-of-purchase signs, and displays. Additionally, CLEAResult staffed 18 lighting events at Home Depot and Costco stores to educate customers about the importance of using LED lightbulbs and the Simple Steps promotion.

Additional activities in 2018 involved education and marketing. During events where Idaho Power sponsored a booth and distributed LED lightbulbs, customers were informed about the importance of using energy-efficient lighting, the quality of LED lightbulbs, and the special pricing available for the Simple Steps, Smart Savings qualified products.

The company continued to host an Energy Efficient Lighting program website to make available a *Change a Light* program brochure, designed to help customers select the right lightbulb for their needs and to discuss energy efficient lighting with customers at community events. Several *#TipTuesday* posts on social media throughout the year focused on energy efficient lighting. Idaho Power recommended using ENERGY STAR certified LED lightbulbs in its summer *Energy Efficiency Guide*, the January and February issues of *Connections*, the January *Home Energy Report* to the winter-heating group, and the March *Home Energy Report* to the year-round group participants who already received an ESK.

Cost-Effectiveness

In 2018, the Energy Efficient Lighting program provided 43 percent of all energy savings derived from residential energy efficiency customer programs and 12 percent of Idaho Power's direct program savings. Between 2017 and 2018, bulb sales declined nearly 24 percent while savings declined nearly 50 percent.

In January 2017, the RTF updated and revisited the assumptions for LEDs to account for market changes due to the federal standards compliance. Because LEDs are naturally becoming a larger share of the market, the RTF updated the current market baseline for lightbulbs. Due to the timing of the RTF's update, BPA and CLEAResult implemented the new savings in 2018 in the Simple Steps, Smart Savings promotion. The RTF LED workbook version 5.2 was the source of most lighting savings assumptions throughout Idaho Power's residential program offerings.

The annual saving for the most popular bulb type, the general-purpose lightbulb in the 250-1049 lumen range, decreased from 13 kWh to 10 kWh. This bulb type made up 53 percent of the total bulbs sold in the program and nearly 40 percent of the total savings. With the change in per-bulb savings and sales

declining just over 15 percent, the total savings for this bulb type declined by nearly 3 million kWh between 2017 and 2018.

The second most popular bulb type is reflector lightbulb in the 250-1049 lumen range which is commonly used in recessed canned light fixtures. The RTF reduced the per bulb savings for this bulb type from 37 kWh to 24 kWh. These reflector bulbs made up just over 19 percent of the total lightbulbs sold in the program and nearly 30 percent of the total savings. In 2018, the 250-1049 lumen reflector lightbulb sales declined 50 percent compared to 2017. With the decline in both sales and deemed savings, the total savings for this bulb type declined over 13 million kWh between 2017 and 2018.

The RTF reviewed and approved new savings for LEDs in December 2017. Based on the timing of when BPA and CLEAResult adopt new savings from the RTF, these updates will be reflected in the 2019 program year. The annual savings for lightbulbs have continued to decline. The reflector lightbulbs in the 250-1049 lumen range will go from 24 kWh to 8 kWh. The RTF met in November 2018 to update the LED savings again. With the final phase of EISA going into effect in January 2020, Idaho Power is monitoring how utilities in the region plan to incorporate the latest RTF numbers beyond January 1, 2020.

The UCT and TRC ratios for the program is 4.67 and 6.64 respectively. While an impact evaluation was conducted for the program in 2018, a majority of the evaluations costs will be incurred in 2019. However, if the amount incurred in 2018 was removed from the program's cost-effectiveness, the UCT and TRC ratios would be 4.68 and 6.65 respectively.

For detailed cost-effectiveness assumptions, metrics, and sources, see *Supplement 1: Cost-Effectiveness*.

Evaluations

Idaho Power retained Tetra Tech MA to conduct an impact evaluation of the Energy Efficient Lighting program. Overall, the evaluation found that the Energy Efficient Lighting program calculations were accurate with little variation by individual LED lightbulb or fixture type. As shown in Table 9, realization rates for each RTF version used were both very close to 100 percent and became even more accurate when RTF version 5.2 was adopted. Much of this increase in accuracy occurred when Idaho Power discontinued rounding the unit savings to the nearest whole number after moving to RTF version 5.2 in October 2017.

Table 9. Savings and realization rate based on RTF version for Energy Efficient Lighting

RTF Applied to Savings	Ex-Ante kWh	Ex-Post kWh	Realization Rate
RTF version 4.2 Applied (10/2016–9/2017)	33,238,504	33,506,134	101%
RTF version 5.2 Applied (10/2017–9/2018)	4,526,238	4,526,469	100%
Program Year 2017	37,764,742	38,032,603	101%

Idaho Power will respond to any 2018 evaluation recommendations during the 2019 program year. The complete report can be found in *Supplement 2: Evaluation*.

2019 Program and Marketing Strategies

Idaho Power will continue to participate in the Simple Steps, Smart Savings lighting program in 2019 by contracting with CLEAResult, who was awarded the annual BPA implementation contract. New savings will be calculated using the new RTF workbook, version 6.1.

Idaho Power will monitor the number of participating retailers and geographic spread of these retailers and develop online promotions that allow customers to access promotional pricing regardless of location. The company will continue to monitor how regional stakeholders respond to the *Energy Independence and Security Act* (EISA) lighting standards that will go into effect on January 1, 2020.

CLEAResult will manage marketing at retailers, including point-of-purchase signs, special product placement, and displays. Idaho Power program specialist and customer representatives will continue to staff educational events to promote the importance of using energy-efficient lighting.

Energy House Calls

	2018	2017
Participation and Savings		
Participants (homes)	280	335
Energy Savings (kWh)	374,484	428,819
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	$146,712	$170,691
Oregon Energy Efficiency Rider	$14,065	$12,008
Idaho Power Funds	$0	$336
Total Program Costs—All Sources	$160,777	$183,035
Program Levelized Costs		
Utility Levelized Cost ($/kWh)	$0.032	$0.032
Total Resource Levelized Cost ($/kWh)	$0.032	$0.032
Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	1.37	1.26
Total Resource Benefit/Cost Ratio	1.74	1.65

Description

Initiated in 2002, the Energy House Calls program gives homeowners of electrically heated manufactured homes an opportunity to reduce electricity use by improving the home's efficiency. Specifically, this program provides free duct-sealing and additional efficiency measures to Idaho Power customers living in Idaho or Oregon who use an electric furnace or heat pump. Participation is limited to one service call per residence for the lifetime of the program.

Services and products offered through the Energy House Calls program include duct testing and sealing according to Performance Tested Comfort System (PTCS) standards set and maintained by the BPA; installing up to eight LED lightbulbs; testing the temperature set on the water heater; installing water heater pipe covers when applicable; installing up to two low-flow showerheads, one bathroom faucet aerator, and one kitchen faucet aerator; and leaving two replacement furnace filters with installation instructions and energy efficiency educational materials appropriate for manufactured-home occupants.

Idaho Power provides contractor contact information on its website and marketing materials. The customer schedules an appointment directly with one of the certified contractors in their region. The contractor verifies the customer's initial eligibility by testing the home to determine if it qualifies for duct-sealing. Additionally, contractors have been instructed to install LED lightbulbs only in high-use areas of the home, to replace only incandescent lightbulbs, and to install bathroom aerators and showerheads only if the upgrade can be performed without causing damage to a customer's existing fixtures.

The actual energy savings and benefits realized by each customer depend on the measures installed and the repairs and/or adjustments made. Although participation in the program is free, a typical cost for a

similar service call would be $400 to $600, depending on the complexity of the repair and the specific measures installed.

Program Activities

In 2018, 280 homes received products and/or services through this program, resulting in 374,484 kWh savings (Figure 21). The decrease in participation is likely due to the program nearing saturation. The program was introduced in 2002 and is one of Idaho Power's longest-running energy efficiency programs. Since participation is limited to once per home for the life of the program and is only available to electrically heated manufactured homes, there are a limited number of available homes that meet the qualifications to participate.

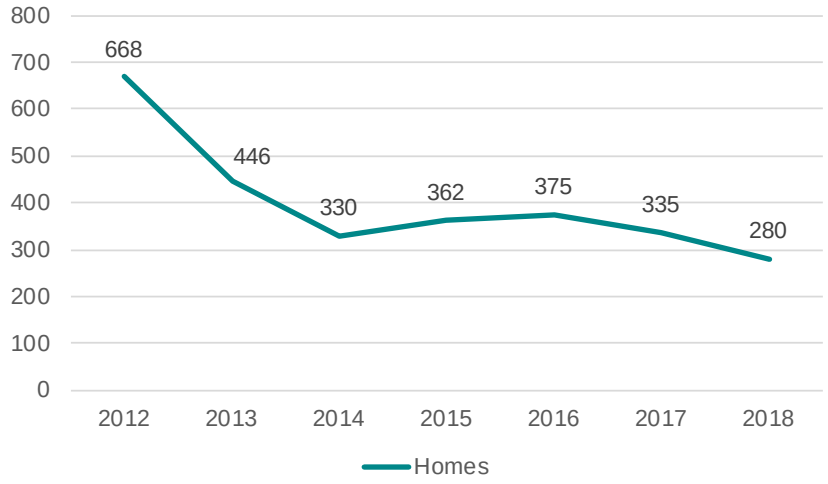

Figure 21. Participation in the Energy House Calls program, 2012–2018

Of the total participating homes, 39 percent were located in the Canyon–West Region, 23 percent were located in the Capital Region, and 38 percent were located in the South–East Region.

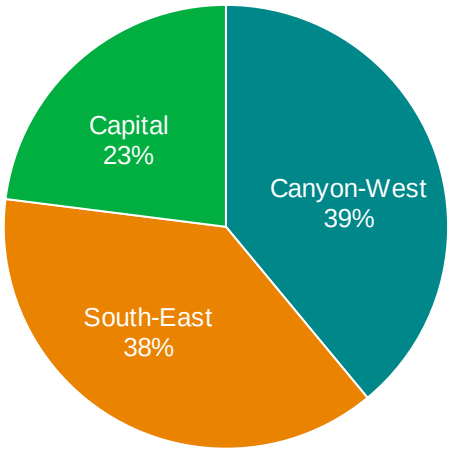

Figure 22. Energy House Calls participation by region

Duct-Sealing

Each year, a number of customers who apply for the Energy House Calls program cannot be served because their ducts do not require duct-sealing or cannot be sealed, for various reasons. These jobs are

billed as a test-only job. On some homes, it is too difficult to seal the ducts, or the initial duct blaster test identifies the depressurization to be less than 150 cubic feet (ft) per minute (cfm) and duct-sealing is not needed. Additionally, if after sealing the duct work the contractor is unable to reduce leakage by 50 percent, the contractor will bill the job as a test-only job. Prior to 2015, these test-only jobs were not reported in the overall number of jobs completed for that year, because there was no kWh savings to report. Because Idaho Power now offers direct-install measures in addition to the duct-sealing component, all homes are reported. While some homes may not have been duct-sealed, all would have had some of the direct-install measures included, which would allow Idaho Power to report kWh savings for those homes. Of the 280 homes that participated in 2018, 38 homes were serviced as test-only.

If a home had a blower door and duct blaster test completed, and the contractor determined that only duct-sealing is necessary, it will be billed as a test and seal. For a multisection home with an x-over duct system (one that transfers heated or cooled air from one side to the other) that needs replaced in addition to the duct-sealing, it will be charged as an x-over. When a home requires the existing belly-return system to be decommissioned and have a new return installed along with the duct-sealing, it will be billed as a complex system. A complex system that also requires the installation of a new x-over and duct-sealing will be billed as a complex system and x-over job.

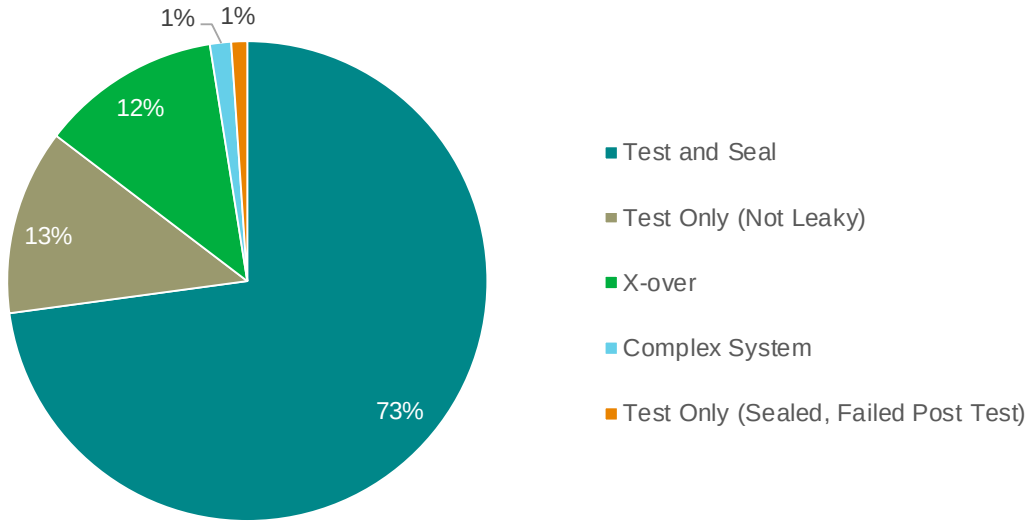

Figure 23. Energy House Calls participation by job type

Direct-Install Measures

In 2018, contractors installed 2,357 LED lightbulbs, 116 showerheads, 151 bathroom aerators, and 150 kitchen aerators. Contractors noted that they've seen a decrease in direct-install measures, as customers have commented that they have already installed the provided products after receiving their free ESKs from Idaho Power. In 2018, 31.4 percent of the Energy House Calls participants have received an ESK, which is up from the 20.2 percent of participants who had received the ESK in 2017.

Marketing Activities

Idaho Power sent two bill inserts to all residential customers in Idaho and Oregon in 2018. The March bill insert was shared with the Rebate Advantage program and sent to 345,506 customers, and the December bill insert was sent to 327,964 customers. The company sent postcards in February and July

to residents of electrically heated manufactured homes who had not yet participated in the program. Written in English and Spanish, 9,495 postcards were delivered in February and 9,435 in July.

A Facebook ad ran in June and reached 43,728 people, resulting in 491 website clicks. Idaho Power also ran digital ads in English and Spanish in December. The English ads received 680,274 impressions and 5,242 clicks. The Spanish ads garnered 176,433 impressions and 1,407 clicks. In addition, Idaho Power customer representatives and customer service representatives knowledgeable about the program continued to promote it to qualified customers.

Cost-Effectiveness

In 2018, Idaho Power used the same RTF savings for duct-sealing in manufactured homes as were used in 2017. Savings and a cost-effectiveness analysis for the direct-install measures, including low-flow showerheads and LED lightbulbs, were completed using deemed savings from the RTF. Because there were no deemed savings from the RTF, Idaho Power used faucet aerators savings from the 2016 potential study for the 2018 program year. However, the RTF met in July 2018 and deemed an energy savings value for faucet aerators. Those numbers will be used in 2019.

For more detailed information about the cost-effectiveness savings and assumptions, see *Supplement 1: Cost-Effectiveness*.

2019 Program and Marketing Strategies

Idaho Power will continue to provide free duct-sealing and selected direct-install efficiency measures for all-electric manufactured/mobile homes in its service area. As always, the company will continue to explore additional cost-effective measures to add to the program.

Idaho Power will include program promotional materials in its bills, send direct-mail postcards, and use social media and other proven marketing strategies. Contractors and customer representatives will also distribute program literature at appropriate events and presentations. Idaho Power will continue to provide Energy House Calls program postcards to CAP agencies for distribution to customers who need assistance but do not qualify to receive weatherization assistance through these agencies.

Heating & Cooling Efficiency Program

	2018	2017
Participation and Savings		
Participants (projects)	712	654
Energy Savings (kWh)	1,556,065	1,138,744
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	$565,780	$575,404
Oregon Energy Efficiency Rider	$19,431	$18,920
Idaho Power Funds	$0	$2,874
Total Program Costs—All Sources	$585,211	$597,198
Program Levelized Costs		
Utility Levelized Cost ($/kWh)	$0.029	$0.041
Total Resource Levelized Cost ($/kWh)	$0.085	$0.099
Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	1.65	1.48
Total Resource Benefit/Cost Ratio	0.83	0.85

Description

The H&CE Program provides incentives to residential customers in Idaho Power's Idaho and Oregon service area for the purchase and proper installation of qualified heating and cooling equipment and services.

Initiated in 2007, the objective of the program is to provide customers with energy-efficient options for electric space heating and cooling in an effort to save energy. Incentives are paid to participating residential customers for all measures; incentives are paid to installing contractors for three measures. To participate in this program, a contractor must first complete the required training regarding program guidelines and technical information on HVAC equipment. Idaho Power requires licensed contractors to perform the installation services related to all of these measures, except evaporative coolers and HPWH.

The H&CE Program's list of measures and incentives includes the following:

- The customer incentive for replacing an existing ducted air-source heat pump with a new ducted air-source heat pump is $250 for a minimum efficiency 8.5 Heating Seasonal Performance Factor (HSPF).
- The customer incentive for replacing an existing oil or propane heating system with a new ducted air-source heat pump is $400 for a minimum efficiency 8.5 HSPF. Participating homes must be located in areas where natural gas is unavailable.
- The customer incentive for replacing an existing electric forced-air or zonal electric heating system with a new ducted air-source heat pump is $800 for a minimum efficiency 8.5 HSPF.

- The incentive for customers or builders of new construction installing a ducted air-source heat pump in a new home is $400 for a minimum efficiency 8.5 HSPF. Participating homes must be located in areas where natural gas is unavailable.
- The customer incentive for replacing an existing ducted air-source heat pump with a new ducted open-loop water-source heat pump is $500 for a minimum efficiency 3.5 coefficient of performance (COP).
- The customer incentive for replacing an existing electric forced-air or zonal electric, oil, or propane heating system with a new ducted open-loop water-source heat pump is $1,000 for a minimum efficiency 3.5 COP. Participating homes with oil or propane heating systems must be located in areas where natural gas is unavailable.
- The incentive for customers or builders of new construction installing a ducted open-loop water-source heat pump in a new home is $1,000 for a minimum efficiency 3.5 COP. Participating homes must be located in areas where natural gas is unavailable.
- The customer incentive for displacing a zonal electric heating system with a new ductless air-source heat pump is $750.
- The customer incentive for duct-sealing services performed in an existing home with an electric forced-air heating system or a heat pump is $350.
- The customer incentive for a whole-house fan (WHF) installed in an existing home with central A/C, zonal cooling, or a heat pump is $200.
- The customer incentive for replacing a Permanent Split Capacitor (PSC) air handler motor with an Electronically Commutated Motor (ECM) in an existing home with oil or propane or natural gas forced-air heat, electric forced-air heat, or a heat pump is $50.
- The customer incentive for installing an evaporative cooler is $150.
- The customer incentive for a smart thermostat installed in an existing home with an electric forced-air furnace or a heat pump is $75.
- The customer incentive for installing a HPWH is $300.

Honeywell, Inc., a third-party contractor, reviews and submits incentive applications and submits requests for payment using a program database portal developed by Idaho Power that is secure yet accessible. Honeywell also provides on-site technical and program support to customers and contractors and performs on-site verifications (OSV).

Program Activities

Idaho Power began offering a cash incentive to customers who installed a HPWH on January 1, 2018. During the development stage of this measure, the company provided updates and requested input from EEAG at quarterly meetings. EEAG's feedback regarding the measure was positive overall.

The 2018 H&CE Program paid incentives are listed in Table 10.

Table 10. H&CE Program incentives in 2018

Incentive Measure	2018 Project Quantity
Ducted Air-Source Heat Pump	172
Ducted Open-Loop Water-Source Heat Pump	14
Ductless Heat Pump	211
Evaporative Cooler	16
Whole-House Fan	41
Electronically Commutated Motor	58
Duct-Sealing	15
Smart Thermostat	155
Heat Pump Water Heater	27

Honeywell performed random OSVs on 10 percent of the completed installations. These OSVs confirmed the information submitted on the paperwork matched what was installed at customers' sites. Overall, the OSV results were favorable.

Supporting, retaining, and expanding Idaho Power's contractor network remained a key growth strategy for the program. In 2018, the company held meetings with many prospective contractors to support this strategy; 16 contractors were added to the program. Idaho Power also provided 22 one-on-one training sessions with contractors in 2018.

Idaho Power made changes to the program based on recommendations from a process and impact evaluation conducted in 2017 by DNV GL. (A copy of the final report can be found in the *Demand-Side Management 2017 Annual Report, Supplement 2: Evaluation*.) A risk and mitigation register was added to the Program Handbook. A revision history was also added along with a list of program measures with their incentive amounts. Though the evaluator suggested adding a logic model, organizational chart, and process flow to the Program Handbook, Idaho Power determined a logic model and organization chart would not provide value to the Program Handbook; therefore, they were not added. A process flow already exists in the Program Handbook.

Additionally, on the submittal forms, fields labeled "homeowner house type" and "existing primary cooling system type" were added to the air source and open loop water-source heat pump installation worksheet forms. Though the evaluator suggested adding the word "primary" to the existing field labeled "Previous/Existing System" on the Incentive Application form, Idaho Power determined that this change would not add value, therefore it was not included.

As recommended, Idaho Power will continue monitoring market transformation related to this program's available measures with input from the RTF and NEEA.

Marketing Activities

In response to the DNV GL evaluation and as part of the company's overall website redesign in early 2018, Idaho Power included a variety of visual content on the program web page. The company also adopted the recommendation to include photos of people displaying positive emotions in its marketing collateral and corrected strange font characters on the web page as recommended by the evaluator.

Idaho Power used multiple marketing methods for its H&CE Program. The company mailed a bill insert to 343,976 residential customers in April and 331,632 residential customers in September. Information about the program was included in the January and July issues of *Home Energy Reports*. Idaho Power sent a direct-mail postcard highlighting each incentive and customized for the season to 34,639 customers in March and 37,790 customers in August. A postcard highlighting whole house fans was sent to 2,990 customers with central air conditioning in May in an effort to better target an individual incentive to a group of customers that were not receiving other H&CE Program postcards.

Figure 24. Whole-house fan advertising postcard

Several social media and *#TipTuesday* posts throughout 2018 focused on heating- and cooling-related tips. Digital ads ran in February, July and August to promote the H&CE Program. The February ads used a new method called geofencing, which delivered ads to users that visit locations that serve targeted customers such as recycling centers and natural food grocery stores. The February digital ads received 1,456,373 impressions and 2,201 clicks. The July and August ads received 8,205,285 impressions and 7,026 clicks. Both ads resulted in a significant increase in web page visits.

The company also ran Facebook ads in February and July promoting the program during extreme temperatures. The February ad reached 126,429 people and resulted in 346,791 impressions and 2,815 clicks to the H&CE web page. The July ad reached 96,192 people and earned 311,908 impressions and 2,609 web page clicks.

Idaho Power created individual flyers for each program measure to use with interested customers and contractors and at events. Additionally, smart thermostats were mentioned in the winter *Energy Efficiency Guide*.

In 2018, Idaho Power continued using an ad promoting DHP as part of the company's overall residential energy efficiency campaign. The DHP ad was featured in a variety of mass-media locations. Full details on where the campaign ads appeared can be found in the Residential Sector Overview.

With the launch of the HPWH incentive in early 2018, Idaho Power conducted a variety of promotions specific to that incentive. The company announced the incentive to employees in *News Scans* and the media in *News Briefs* in early January. In February, the company developed a sticker for customers to place on their existing water heater as a reminder to consider a HPWH when it's time for a replacement. The sticker is included in all ESKs sent to customers with electric water heaters. That same month, HPWHs were promoted during monthly TV segments on KTVB, KPVI, and KMVT. A Facebook ad promoting the incentive ran in March and resulted in 2,279 link clicks, 85,815 people reached and 212,788 impressions. The first customer who received a HPWH incentive was featured on the cover of the April issue of *Connections*. Additionally, letters were mailed to 267 wholesalers and plumbing installers in June and to retailers with copies of the HPWH-specific flyer in July. A pull-up banner displaying a full size HPWH and incentive information was created in February for use at trade shows and events throughout the year. Several social media posts also focused on HPWHs and the incentive.

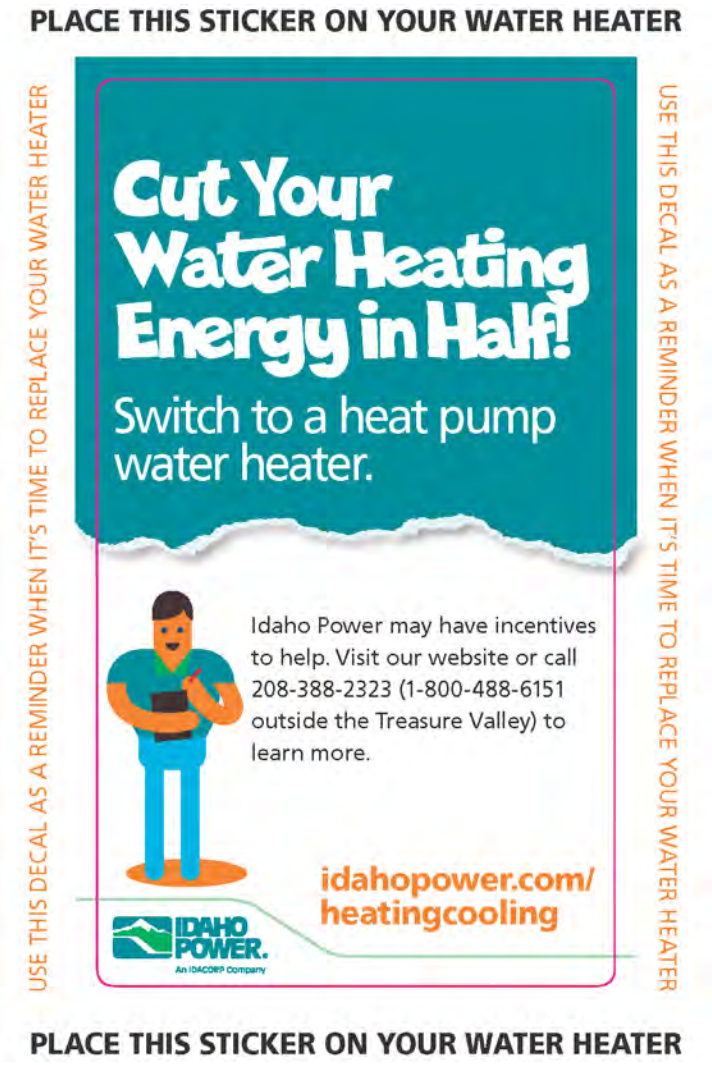

Figure 25. HPWH sticker

Cost-Effectiveness

The H&CE Program has a utility cost test of 1.65 and total resource cost test of 0.83. While the utility cost test improved in 2018 and the total resource test stayed the same when compared to 2017, using the

2017 program load shape, the total resource cost test increased to just over 1.0. Calibrations to end-use load shapes created for the 2016 energy efficiency potential study offset cost-effectiveness gains from cost control efforts in 2018.

Throughout 2017 and into 2018, Idaho Power worked toward improving program cost-effectiveness. These tactics included: 1) reassigning non-program labor, 2) reducing marketing spend while optimizing campaigns, 3) reducing contractor incentives from $150 to $50, 4) and adding HPWHs to the program. These efforts were successful in keeping cost-effectiveness ratios from falling in 2018 over 2017 levels.

DHPs continue to drag down cost-effectiveness of the program. The TRC is 0.96 when removing DHPs from cost-effectiveness calculations while the TRC of ductless systems is 0.69. Market transformation efforts, specifically the market transformation work provided by NEEA, in the region have failed to drive prices down along with lower net savings in colder climates are the two primary problems plaguing DHP cost-effectiveness.

Program savings were positively impacted for ECMs. Savings increased from 515 annual kWh to an average of 2,098 per installation by estimating in-situ savings that are a function of actual customer fan motor usage data collected on the incentive application forms. Customer specific behavior-based savings estimation was recommended in the 2017 program evaluation.

The savings assumptions for most measures including air source heat pumps, open loop water source heat pump, DHPs, and duct sealing remain unchanged from 2017. As a result, DHPs and open-loop water source heat pumps remain not cost-effective. These measures have cost-effectiveness exceptions with the OPUC under UM 1710. In addition to these measures, smart thermostats also remain not cost-effective. Idaho Power received a cost-effectiveness exception with the OPUC under Advice No. 17-09 due to the measure being a pilot. Other measures that are shown to not be cost-effective are heat pumps water heaters and duct-sealing. However, these measures would be cost-effective if administration costs were not included in the cost-effectiveness analysis.

An impact and process evaluation was conducted for the program in 2017 and a majority of the evaluation costs were incurred in 2017. However, a small amount of the evaluation costs carried over into 2018. If the amount incurred in 2018 was removed from the program's cost-effectiveness, the UCT and TRC ratios would be 1.66 and 0.84 respectively.

For detailed information about the cost-effectiveness savings, sources, calculations, and assumptions, see *Supplement 1: Cost-Effectiveness.*

For 2018 savings calculations, Idaho Power updated climate references in the program's databases to match the current values posted on the RTF website based on the evaluator's recommendation.

The evaluator recommended the continued use of the latest RTF data and to note other sources of energy-savings data when used by the program. The company is in alignment with this. The evaluator also recommended that Idaho Power add a variable to Idaho Power's data tracking system to note when its data for a particular incentive application is changed and no longer matches the information on the incentive application forms received. As an alternative, Idaho Power decided to edit the forms to match any changes made to the data, eliminating the need for a variable in the database.

For detailed information about the program evaluation, see the *Demand-Side Management 2017 Annual Report, Supplement 2: Evaluation.*

2019 Program and Marketing Strategies

Idaho Power will continue to provide program training to existing and prospective contractors to assist them in meeting program requirements and furthering their product knowledge. Sessions will be held at contractor businesses. Training sessions remain an important part of the program because they create opportunities to invite additional contractors into the program. The sessions also provide refresher training for contractors already participating in the program and help them increase their customers' participation while improving the contractors' work quality.

Developing the existing network of contractors participating remains a key strategy for the program. The performance of the program is substantially dependent on the contractors' abilities to promote and leverage the measures offered. Idaho Power's primary goal in 2019 is to develop contractors currently in the program while adding new contractors. To meet this objective, the program specialist will arrange frequent individual meetings to discuss the program with contractors in 2019.

The 2019 marketing strategy will include bill inserts, direct-mail, social media, digital and search advertising, and email marketing to promote individual measures and the program as a whole. As recommended by the evaluator, Idaho Power will explore options for updating the marketing materials to use visuals other than the house graphic, research ways to track the effectiveness of marketing campaigns, and consider adding video content to the program web page.

Home Energy Audit

	2018	2017
Participation and Savings		
Participants (homes)	466	520
Energy Savings (kWh)	211,003	175,010
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	$264,394	$281,125
Oregon Energy Efficiency Rider	$0	$0
Idaho Power Funds	$0	$1,684
Total Program Costs—All Sources	$264,394	$282,809
Program Levelized Costs		
Utility Levelized Cost ($/kWh)	$0.113	$0.146
Total Resource Levelized Cost ($/kWh)	$0.137	$0.182
Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	n/a	n/a
Total Resource Benefit/Cost Ratio	n/a	n/a

Description

The current Home Energy Audit program is based on the insights gained from the Boise City Home Audit project conducted in 2011 and 2012, as described in the *Demand-Side Management 2012 Annual Report*. In 2014, the audit project became Idaho Power's Home Energy Audit program.

A certified, third-party home performance specialist conducts an in-home energy audit to identify areas of concern, and to provide specific recommendations to improve the efficiency, comfort, and health of the home. The audit includes a visual inspection of the crawlspace and attic, a health and safety inspection, and a blower door test to identify and locate air leaks. The home performance specialist collects information on types and quantities of appliances and lighting in each home, then determines which available measures are appropriate for the home. Homeowners and/or landlords approve all direct-install measures prior to installation, which could include the following:

- Up to 20 LED lightbulbs
- One high-efficiency showerhead
- Pipe insulation from the water heater to the home wall (approximately 3 ft)
- Tier 2 Advanced Power Strip

The home performance specialist collects energy-use data and records the quantity of measures installed during the audit using specialized software. After the audit, the software creates a report of findings and recommendations for the customer.

To qualify for the Home Energy Audit program, a participant must live in Idaho and be the Idaho Power customer of record for the home. Renters must have prior written permission from the landlord. Single-family site-built homes, duplexes, triplexes, and fourplexes qualify, though multi-family homes

must have discrete heating units and meters for each unit. Manufactured homes, new construction, or buildings with more than four units do not qualify.

Interested customers fill out an application online. If they do not have access to a computer, or prefer talking directly to a person, Idaho Power accepts applications over the phone. Participants are assigned a home performance specialist based on geographical location to save travel time and expense.

Participating customers pay $99 (all-electric homes) or $149 (other homes: gas, propane, or other fuel sources) for the audit and installation of measures, with the remaining cost covered by the Home Energy Audit program. The difference in cost covers the additional testing that is necessary for homes that are not all-electric. These types of energy audits normally cost $300 or more, not including the select energy-saving measures, materials, and labor. The retail cost of the materials installed in each home averages $145.

Program Activities

Because the CAKE Systems audit software was discontinued at the end of 2017, in 2018 the home performance specialists used an audit tool created by Idaho Power when the program was the Boise City Home Audit project. To find a permanent software solution, various software vendors were invited to submit bids through a competitive RFP. A cross-functional team selected the software (SnuggHome) that would best fit the needs of this program, including enhancements to meet strict cyber security requirements. Testing and training has been completed, and home energy audits completed in 2019 will use the new software.

In the first quarter, Idaho Power added a new direct-install audio/visual smart strip to the list of available measures. The smart strip is an eight-outlet power strip that provides constant power to two of the outlets, and on-demand power to the other six. The constant power is for electronics, such as a cable box or recorder, while the on-demand power is used for peripherals, such as a TV, an amplifier, a DVD player, speakers, etc. The smart strip shuts off the on-demand power when a predetermined amount of time has passed since the device was last used.

Three home performance specialist companies served the program in 2018 and completed 466 energy audits. House size ranged from 625 square ft (ft^2) to 9092 ft^2, with 2383 ft^2 being the average-sized home. Houses were built from 1883 to 2018, with the average age of home being 35 years old.

Figure 26 depicts the program's reach across Idaho Power's service area, and Figure 27 depicts the space and water heating fuel types. Figure 28 indicates the total quantity of direct-install measures.

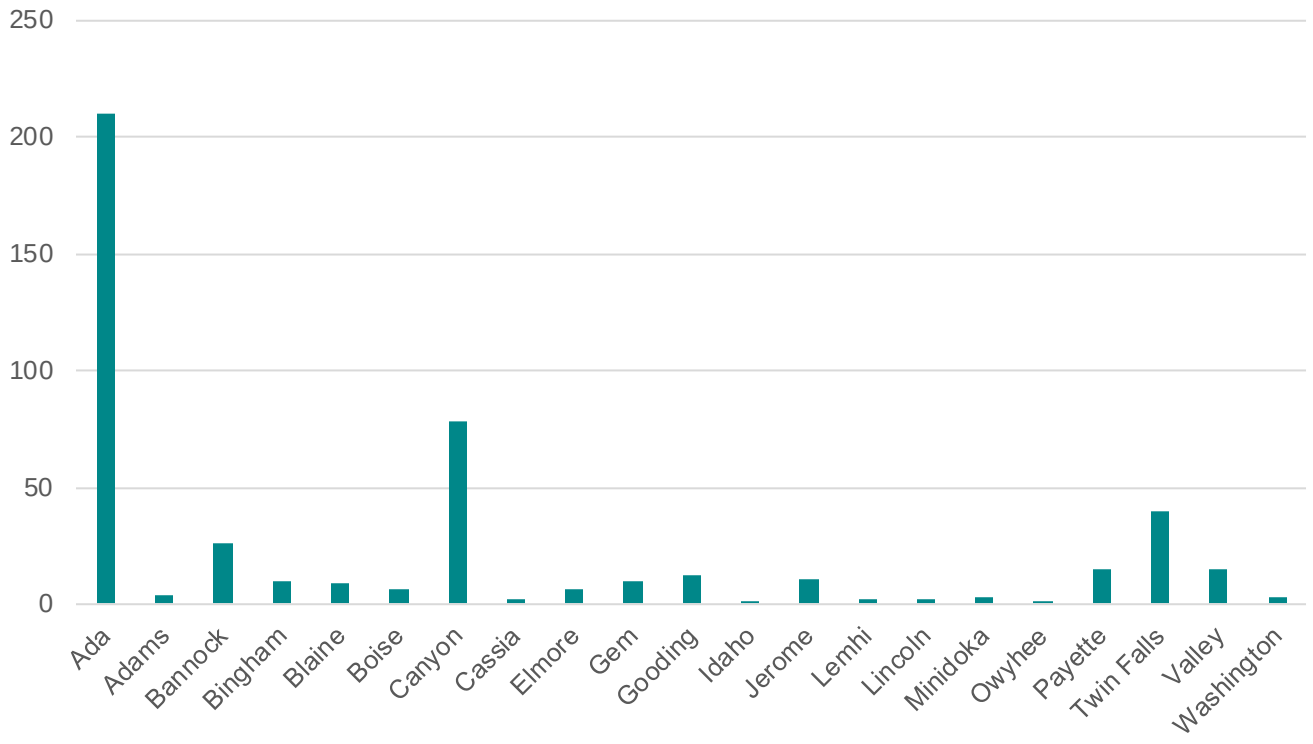

Figure 26. Home Energy Audit summary of participating homes, by county

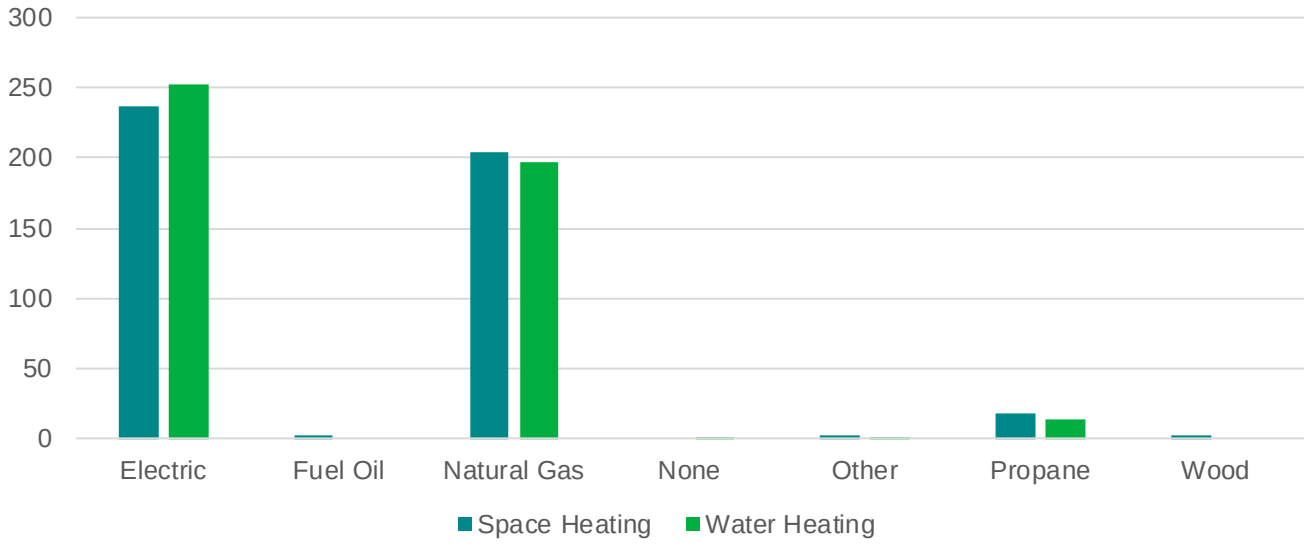

Figure 27. Home Energy Audit summary of space and water heating fuel types

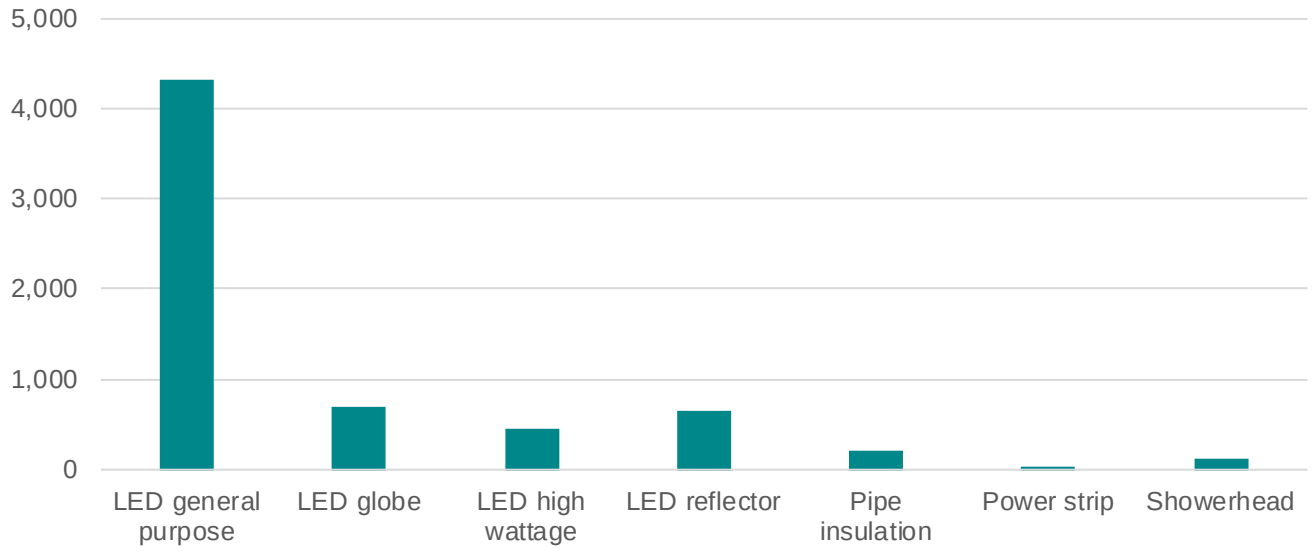

Figure 28. Home Energy Audit measures installed in participating homes

The QA goal for the program was inspection of 5 percent of all audits, translating into approximately 23 audits in 2018. Ultimately, 26 QAs were completed in 2018, with all audits passing inspection.

Marketing Activities

In 2018, the Home Energy Audit marketing collateral (including bill inserts, flyers, posters, print and digital advertisements, etc.) continued the illustrated look and feel of the 2017 campaign. Idaho Power recruited participants using small batches of direct-mail letters to ensure customers who sign up are contacted within a short timeframe and to avoid a large backlog of work which could result in a poor customer experience.

Figure 29. Home Energy Audit program bill insert

In November 2018, Idaho Power collaborated with the University of Idaho's Valley County Extension Office to host an energy efficiency workshop in Cascade, Idaho. Letters were sent to residents inviting the community to attend the afternoon and evening workshops. The workshop was attended by approximately 12 residents and was well received. Attendees learned how to check their homes for efficiency, how to make improvements, what incentives are available through Idaho Power, and how a professional energy assessment could help improve energy efficiency. Each participant received a Giveaway ESK.

Program-related bill inserts were sent to 334,335 residential customers in March, 329,995 customers in June, and 325,425 in December. The program was prominently featured in the overall energy efficiency residential marketing campaign, including a specific call-out in the television, print, and digital advertisements. The company also featured the Home Energy Audit in an article in the October issue of *Connections*. The *2018 Summer Energy Efficiency Guide* featured ways to save energy at home and

referred customers to the Home Energy Audit web page. The guide appeared in regional newspapers in July and August.

In September, digital display ads ran on a variety of websites based on user demographics, search behavior, and other targeted factors (Figure 30). The ads generated 676,000 impressions and a 0.16 percent click-through rate. In February and June, digital ads ran on Facebook and generated 55,930 and 146,757 impressions, respectively. The February ad was boosted in March, generating an additional 7,667 impressions. In June, another post about the program was boosted, resulting in 9,237 impressions. In March, KPVI in Pocatello interviewed an Idaho Power customer representative who shared information about the Home Energy Audit program.

Figure 30. Home Energy Audit program digital ad

Customers who enrolled in the Home Energy Audit program throughout the year were asked where they heard about the program. Responses included the following: information in the mail, 50 percent; other, 30 percent; family member or friend, 10 percent; Idaho Power employee, 9 percent; social media, 1 percent.

Cost-Effectiveness

One of the goals of the Home Energy Audit program is to increase participants' understanding of how their home uses energy and to encourage their participation in Idaho Power's energy efficiency programs. Since the Home Energy Audit program is primarily an educational and marketing program, the company does not apply the traditional cost-effectiveness tests to the program.

For the items installed directly in the homes, Idaho Power used RTF savings for direct-install lightbulbs, which range from 16 to 61 kWh per year. This was a slight increase over the 2017 lightbulb savings which ranged from 14 to 47 kWh per year. The savings attributed to the directly installed LEDs increased nearly 40 MWh between 2017 and 2018. This increase is offset slightly by lower savings and

fewer installations of showerheads and pipe wraps. These changes account for the 36 MWh increase in total reported savings between 2017 and 2018.

The RTF savings for 2.0 gpm showerheads directly installed in an electrically water heated home are approximately 144 kWh per year. However, showerheads that were installed on non-electrically water heated homes do have a small amount of electric savings. The RTF calculates the energy saved from the water not processed at a wastewater treatment facility. The RTF estimates that a 2.0 gpm showerhead installed on a non-electric water heater saves approximately 4 kWh per year. In Idaho Power's *Energy Efficiency Potential Study*, Applied Energy Group (AEG) estimates that pipe wraps save 130 kWh per year. Savings for both showerheads and pipe wrap were counted for homes with electric water heaters.

Idaho Power contracted with DNV GL to perform an impact evaluation of the program in 2017. DNV GL recommended that Idaho Power use the pipe wrap savings of 130 kWh for from the 2016 potential study. Because of the timing of the result of that study, Idaho Power did not incorporate those savings prior to the 2018 program year. However, the pipe wrap savings from the 2016 study were used in the 2018 program year. Additionally, AEG provided new estimates for pipe wrap savings with the 2018 potential study update. These new savings will be applied in 2019.

DNV GL also recommended claiming NEBs for pipe wrap insulation and showerheads in homes with gas water heat. Idaho Power has calculated the gas and water savings for showerheads installed in gas water heat homes. While Idaho Power does not calculate a cost-effectiveness ratio for the Home Energy Audit program, those values have been included in the sector and portfolio cost-effectiveness. Idaho Power has also converted the 130 kWh of pipe wrap savings to 4.43 therms and those gas savings are included in the sector and portfolio cost-effectiveness.

Customer Satisfaction

Throughout 2018, a survey was sent to 456 customers who had participated in the program between October 2017 and September 2018. The purpose of the survey was to assess customers' satisfaction with program enrollment, the scheduling, the auditor, the personalized report, and the information learned. Participants who supplied an email address on the initial program enrollment form were sent an electronic survey (301 participants); those without an email address were sent a hard copy of the survey with a postage-paid envelope (155 participants). The response rate was about 34 percent, with 156 participants responding.

When asked a series of questions about their experience with the program, about 90 percent of respondents "strongly agree" or "somewhat agree" they would recommend the program to a friend or relative, and nearly 91 percent of respondents "strongly agree" or "somewhat agree" they were satisfied with their overall experience with the program. Nearly 97 percent of the respondents indicated it was "very easy" or "somewhat easy" to apply for the program. Home performance specialists were rated on a number of attributes, including courteousness, professionalism, explanation of work/measurement to be performed, explanation of audit recommendations, and overall experience. Respondents rated their home performance specialist as "good" or "excellent" 90 to 99 percent of the time.

When asked how strongly they agree or disagree with statements about what they learned during the audit process, over 93 percent of respondents "strongly agree" or "somewhat agree" they were more informed about the energy use in their home. Over 77 percent reported they "strongly agree" or

"somewhat agree" they were more informed about energy efficiency programs available through Idaho Power. Over 84 percent indicated they "strongly agree" or "somewhat agree" they learned what additional no-cost to low-cost actions they could take.

A copy of the survey results can be found in *Supplement 2: Evaluation.*

2019 Program and Marketing Strategies

Idaho Power will continue recruiting participants through small batches of targeted direct-mailings, social media posts, advertising, and bill inserts. Additional digital advertising may be considered if the program needs to be strategically promoted in specific regions.

Beginning January 2019, based on the results of the RFP, Idaho Power will use SnuggHome residential auditing software from SnuggPro.

Multifamily Energy Savings Program

	2018	2017
Participation and Savings		
Participants (projects)	25	12
Energy Savings (kWh)	655,963	617,542
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	$205,131	$167,342
Oregon Energy Efficiency Rider*	$0	$0
Idaho Power Funds	$0	$874
Total Program Costs—All Sources	$205,131	$168,216
Program Levelized Costs		
Utility Levelized Cost ($/kWh)	$0.030	$0.026
Total Resource Levelized Cost ($/kWh)	$0.030	$0.026
Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	1.60	1.75
Total Resource Benefit/Cost Ratio	3.00	3.55

* Idaho Rider charges of $13,264 were reversed and charged to the Oregon Rider in March 2019. Oregon savings should have been 67,270 kWh.

Description

The Multifamily Energy Savings Program provides for the direct installation of energy-saving products in multi-family dwellings with electrically heated water in Idaho and Oregon. These energy-saving products are installed by an insured contractor hired by Idaho Power at no cost to the property owner, manager, or tenant. Idaho Power defines a multi-family dwelling as a building consisting of five or more rental units. The products installed are: ENERGY STAR® LED lightbulbs, high-efficiency TSV showerheads, kitchen and bathroom faucet aerators, and water heater pipe insulation.

To ensure energy savings and eligibility, each building is pre-approved by Idaho Power and the contractor who will install the energy efficiency measures. Upon approval, the no-cost, direct installation is scheduled and completed. Tenants in participating apartment complexes receive a tailored door hanger before the service date notifying them that contractors will be entering their home to install energy-saving products.

Program Activities

Twenty-five projects across the Idaho and Oregon service area were completed as program participation increased significantly in 2018. Between these 25 projects, a total of 810 apartment units received the energy-saving products, compared to 687 apartment units in 2017.

Marketing Activities

To increase awareness and promote participation in the Multifamily Energy Savings Program, three alternating, clickable ads were added to the Landlord/Property Manager Requests page of Idaho Power's website (Figure 31). Letters describing the program, its benefits, and eligibility requirements were mailed to targeted audiences (landlords and property owners) to further increase awareness.

Figure 31. Three Multifamily Energy Saving Program promotional ads on website

In mid-2018, a new marketing video was added to the Multifamily Energy Savings Program web page. The video explains the eligibility requirements, the no-cost direct-install measures available to landlords/tenants, the installation process, and the potential for residents to save on their monthly bills and be more comfortable in their home. Contact information is provided at the end of the video.

As customers participated in the program throughout the year, Idaho Power communicated with them before and after their installations. A pre-installation door hanger explained the schedule and the types of products a contractor would install inside the customers' homes (Figure 32). Once installation was complete, Idaho Power left materials to explain the new energy efficiency measures and to provide contact information should the tenant have any questions. Lastly, customers were asked to participate in a survey, rating their satisfaction for installed measures and overall product and program satisfaction. The responses will help Idaho Power improve marketing activities in the future.

Figure 32. Multifamily Energy Saving Program post-project customer survey

Cost-Effectiveness

The RTF provides deemed savings for direct-install LED lightbulbs and low-flow showerheads. The LED lightbulbs have a deemed savings value of 16 to 61 kWh per year depending on the type and lumens of the lightbulb and the location of the lightbulb installation. The integrated 1.75 gpm showerheads with TSV were installed in most apartments. These showerheads save approximately 267 kWh per year. Some apartments had the 2.0 gpm showerhead installed which save approximately 102 kWh. For the faucet aerator and pipe wrap, the RTF does not provide a deemed savings estimate. In Idaho Power's *Energy Efficiency Potential Study*¸ AEG estimated the annual faucet aerator savings to be 56 kWh and the annual pipe wrap savings to be 81 kWh.

In 2018, the RTF reviewed and updated the savings assumptions for LED lightbulbs and deemed savings values for faucet aerators. These new savings will be applied in 2019.

The UCT and TRC ratios for the program is 1.60 and 3.00 respectively. Impact and process evaluations were conducted for the program in 2018. If the evaluation costs incurred in 2018 were removed from the program's cost-effectiveness, the UCT and TRC ratios would be 1.96 and 3.66 respectively.

For detailed cost-effectiveness assumptions, metrics, and sources, see *Supplement 1: Cost-Effectiveness*.

Customer Satisfaction

Idaho Power included a satisfaction survey with the leave-behind materials in each apartment. Both an online and mail-in option were offered. The response rate was low, with only 52 out of over 700 residents responding by mailing in the stamped survey cards; no online surveys were submitted. Residents were asked to rate several attributes on a scale with 1 being very dissatisfied to 5 being very satisfied. Overall, the residents that responded to the survey were satisfied with the project. Respondents rated the quality of the products at 4.54 and rated the overall project at 4.67.

Evaluations

In 2018, Idaho Power retained Tetra Tech to conduct an impact evaluation of 2017 reported savings and a process evaluation of current program processes. The results of the evaluations revealed a successful first-year program.

The impact evaluation found that Idaho Power used the incorrect savings values from the 2016 potential study which resulted in an overall realization rate of 84 percent. The transcribed error was corrected for the 2018 program year.

The process evaluation found that the program specialist and installation contractors work well to deliver the program. Contractors indicated that current processes effectively streamline program activity and reduce additional visits that burden property managers and tenants. They also found the program materials to be professional, informative, and educational.

Idaho Power will consider all recommendations from the process and impact evaluations; responses will be reported in the *Demand-Side Management 2019 Annual Report*. See the complete process and impact evaluation report in *Supplement 2: Evaluation*.

2019 Program and Marketing Strategies

Idaho Power plans to increase energy-efficient direct-installation projects in multi-family dwellings throughout its service area in 2019. Following a suggestion from EEAG, Idaho Power anticipates adding attic insulation to the list of direct-install measures in 2019. To qualify, current insulation must be rated R7 or below.

Idaho Power will continue to use informative notifications, pre-installation door hangers, and post-installation informational marketing pieces as well as survey cards. Direct-mailings will be continued to encourage engagement and participation from property owners/managers and to increase program visibility.

Oregon Residential Weatherization

	2018	2017
Participation and Savings		
Participants (audits/projects)	5	7
Energy Savings (kWh)	n/a	2,154
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	$0	$0
Oregon Energy Efficiency Rider	$5,507	$2,384
Idaho Power Funds	$0	$0
Total Program Costs—All Sources	$5,507	$2,384
Program Levelized Costs		
Utility Levelized Cost ($/kWh)	n/a	$0.063
Total Resource Levelized Cost ($/kWh)	n/a	$0.099
Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	n/a	n/a
Total Resource Benefit/Cost Ratio	n/a	n/a

Description

Idaho Power offers free energy audits for electrically heated customer homes within the Oregon service area. This is a program required by Oregon Revised Statute (ORS) 469.633 and has been offered under Oregon Tariff Schedule 78 since 1980. Upon request, an energy audit contractor hired by Idaho Power visits the customer's home to perform a basic energy audit and analyze it for energy efficiency opportunities. An estimate of costs and savings for recommended energy efficient measures is given to the customer. Customers may choose either a cash incentive or a 6.5-percent interest loan for a portion of the costs for weatherization measures.

Program Activities

In 2018, five customers returned a card from the program brochure indicating interest in a home energy audit, weatherization loan, or incentive payment. All five of these customers met the program requirements and received audits, though none chose to move forward with the recommended energy efficiency upgrades. Therefore, no loans or incentives were issued in 2018.

Marketing Activities

During May, as required, Idaho Power sent every Oregon residential customer an informational brochure about energy audits and home weatherization financing.

Cost-Effectiveness

The Oregon Residential Weatherization program is a statutory program described in Oregon Schedule 78, which includes a cost-effectiveness definition of this program. Pages three and four of the schedule identify the measures determined to be cost-effective and the specified measure life

cycles for each. This schedule also includes the cost-effective limit (CEL) for measure lives of seven, 15, 25, and 30 years.

No audits translated to efficiency projects in 2018.

2019 Program and Marketing Strategies

Idaho Power will complete requested audits, fulfill all incentives deemed cost-effective, and process loan applications as required under Tariff Schedule 78. The company will market the program to customers with a bill insert/brochure and add a program web page to the Savings For Your Home section of the Idaho Power website in 2019.

Rebate Advantage

	2018	2017
Participation and Savings		
Participants (participants)	107	66
Energy Savings (kWh)	284,559	214,479
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	$105,770	$93,891
Oregon Energy Efficiency Rider	$41,714	$10,861
Idaho Power Funds	$0	$244
Total Program Costs—All Sources	$147,483	$104,996
Program Levelized Costs		
Utility Levelized Cost ($/kWh)	$0.027	$0.025
Total Resource Levelized Cost ($/kWh)	$0.064	$0.055
Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	1.93	1.88
Total Resource Benefit/Cost Ratio	1.08	1.19

Description

Initiated in 2003, the Rebate Advantage program helps Idaho Power customers in Idaho and Oregon with the initial costs associated with purchasing a new, energy-efficient, ENERGY STAR® qualified manufactured home. This enables the homebuyer to enjoy the long-term benefit of lower electric bills and greater comfort provided by these homes. The program also provides an incentive to the sales consultants to encourage more sales of ENERGY STAR qualified homes and more discussion of energy efficiency with their customers during the sales process.

In addition to offering financial incentives, the Rebate Advantage program promotes and educates buyers and retailers of manufactured homes about the benefits of owning energy-efficient models. The Northwest Energy Efficient Manufactured (NEEM) housing program establishes quality control (QC) and energy efficiency specifications for qualified homes. NEEM is a consortium of manufacturers and state energy offices in the Northwest. In addition to specifications and quality, NEEM tracks the production and on-site performance of ENERGY STAR qualified manufactured homes.

Program Activities

In 2018, the residential customer incentive for this program was $1,000; the sales staff incentive was $200 for each qualified home they sold. Idaho Power paid 107 incentives on new manufactured homes, which accounted for 284,559 annual kWh savings. This included a 32-home development in Ontario, Oregon.

Marketing Activities

In March, Rebate Advantage was promoted through a bill insert (shared with the Energy House Calls program) sent to 345,506 customers. The insert had information about the potential energy and dollar savings to customers and referred customers to the program website.

In May 2018, the company updated Rebate Advantage program collateral, including flyers and posters. Idaho Power continued to support manufactured home dealerships by providing them with updated Rebate Advantage collateral, as well as 10 vinyl banners (Figure 33).

Figure 33. Rebate Advantage dealership banner

A Facebook ad ran in September aimed at reaching Spanish- and English-speaking customers age 35-65+ with at least a high school education and an interest in manufactured housing. The ad reached 11,836 people and resulted in 38,444 impressions.

Cost-Effectiveness

The Rebate Advantage program has a UCT of 1.93 and a TRC of 1.08. In February 2017, the RTF updated savings for new construction manufactured homes. The RTF updated the heating system measure identifier for these new manufactured homes. Previously, the savings for these homes differed by heating system type: electric forced air furnace vs. heat pump. The RTF models savings for the new home "shell." When compared to an inefficiently built home, efficient homes with an electric forced-air furnace technically save more energy than those built with a heat pump because the savings come from the shell and not the heating source. The RTF was concerned that while manufactured homes would leave the factory with an electric forced-air furnace; some of these homes would have a heat pump installed within a year. If this would occur, savings could be double counted within Rebate Advantage and H&CE Program. To address this, the RTF blended the heating system type to be split 75 percent forced-air furnace and 25 percent heat pump. As a result, the average annual savings per home declined by 18 percent between 2017 and 2018.

For detailed information for all measures within the Rebate Advantage program, see *Supplement 1: Cost-Effectiveness*.

2019 Program and Marketing Strategies

Idaho Power will continue to support manufactured home dealers by providing them with program materials. The company will also distribute a bill insert to Idaho and Oregon customers and will explore digital advertising to promote the program to potential manufactured home buyers.

Residential New Construction Pilot Program

	2018	2017
Participation and Savings		
Participants (participants)	307	277
Energy Savings (kWh)	777,369	608,292
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	$400,910	$320,637
Oregon Energy Efficiency Rider	$2	$2,232
Idaho Power Funds	$0	$651
Total Program Costs—All Sources	$400,912	$323,520
Program Levelized Costs		
Utility Levelized Cost ($/kWh)	$0.027	$0.028
Total Resource Levelized Cost ($/kWh)	$0.061	$0.051
Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	2.51	2.36
Total Resource Benefit/Cost Ratio	1.23	1.47

Description

The Residential New Construction Pilot Program launched in March 2018, replacing the ENERGY STAR® Homes Northwest Program. The Residential New Construction Pilot Program offers builders a cash incentive to build energy-efficient, single-family homes that use heat pump technology in Idaho Power's Idaho service area. These homes must meet strict requirements that make them at least 20 percent more energy efficient than homes built to standard state energy code.

The RTF and NEEA have created specific modeling requirements and program guidelines to ensure the program provides reliable energy savings for utilities across the Northwest. These homes feature high-performance HVAC systems, high-efficiency windows, increased insulation values, and tighter building shells to improve comfort and save energy. Idaho Power claims energy savings based on each home's individual modeled savings.

Builders must contract with a Residential Energy Services Network (RESNET)-certified rater to ensure the home design will meet program qualifications. The rater will work with the builder from the design stages through project completion; perform the required energy modeling using REM/Rate modeling software; perform site inspections and tests; and enter, maintain, and submit all required technical documentation in the REM/Rate modeling software and the AXIS database. This data is used to determine the energy savings and the percent above code information needed to certify the home. NEEA maintains the regional AXIS database.

Program Activities

The ENERGY STAR® Homes Northwest Program was phased out in 2018, and only homes that were started prior to January 31, 2018 and certified by December 31, 2018 could qualify for that incentive. Two hundred ninety-two of these homes were certified and received the $1,000 incentive in 2018.

The incentive for homes certified under the Residential New Construction Pilot Program is $1,500. The company paid incentives on 15 Residential New Construction Pilot Program homes, accounting for savings of 64,889 kWh.

Marketing Activities

Idaho Power maintained a strong presence in the building industry by supporting the Idaho Building Contractors Association (IBCA) and several of its local affiliates throughout Idaho Power's service area in 2018. The company participated in the IBCA Summer Board Meeting, the Building Contractors Association of Southwestern Idaho (BCASWI) builder's expo, and the Snake River Valley Building Contractors Association (SRVBCA) builder's expo.

Idaho Power supported Parade of Homes events with full-page ads in the Parade of Homes magazines of the following BCAs: The Magic Valley Builders Association (MVBA), the BCASWI, and the SRVBCA. A print ad was created for the Pocatello Parade of Homes and a poster for the Twin Falls Home Show. Print and digital ads also appeared in the *Idaho Business Review* in June (Figure 34).

Figure 34. Residential New Construction Pilot Program ad

On the April and May billing statements, Idaho Power added messages informing residential customers of Parade of Homes events in their area. A bill insert was sent to 342,687 Idaho customers in May to promote the program.

New informational program brochures and a new program web page were created in March to educate and inform program stakeholders and customers of the new program.

Cost-Effectiveness

Residential New Construction cost-effectiveness improved in 2018 because of increased savings and decreased incremental costs. The RTF updated prescriptive deemed savings numbers for new construction townhomes for Idaho and Montana in spring of 2017. The increase savings from 2,196 to 2,440 annual kWh better reflected Idaho building code baselines. The updated RTF savings were applied to the 292 legacy ENERGY STAR® homes submitted by builders in 2018. Savings for the 15 energy-

modeled homes varied between 2,100 and 8,700 kWh per home depending on which efficiency upgrades were included to meet the 20-percent over code program requirement.

Incremental costs of efficient measures dropped by over $400 per home for legacy homes contributing to improved benefit-cost ratios. Incremental costs for the 15 modeled homes were calculated on a project-by-project basis looking at the average upgrades in efficiency within the two communities. For more detailed information about the cost-effectiveness savings and assumptions, see *Supplement 1: Cost-Effectiveness*.

2019 Program and Marketing Strategies

Idaho Power plans to continue to promote this program to Idaho builders and new home buyers. These marketing efforts include ads in Parade of Homes magazines for the BCASWI, SRVBCA, MVBA, and the Building Contractors Association of Southeast Idaho (BCASEI). A bill insert is planned for spring 2019. The company also plans to continue supporting the general events and activities of the IBCA and its local affiliates. Social media and other advertising will be considered based on past effectiveness.

Shade Tree Project

	2018	2017
Participation and Savings		
Participants (trees)	2,093	2,711
Energy Savings (kWh)	35,571	n/a
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	$162,995	$194,695
Oregon Energy Efficiency Rider	$0	$0
Idaho Power Funds	$0	$1,122
Total Program Costs—All Sources	$162,995	$195,817
Program Levelized Costs		
Utility Levelized Cost ($/kWh)	$0.307	n/a
Total Resource Levelized Cost ($/kWh)	$0.307	n/a
Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	0.71	n/a
Total Resource Benefit/Cost Ratio	0.80	n/a

Description

The Shade Tree Project began as a pilot in 2013. According to the DOE, a well-placed shade tree can reduce energy used for summer cooling by 15 percent or more. Utility programs throughout the country report high customer satisfaction with shade tree programs and an enhanced public image for the utility related to sustainability and environmental stewardship. Other utilities report energy savings between 40 kWh per year (coastal climate San Diego) and over 200 kWh per year (Phoenix) per tree planted.

To be successful, trees should be planted to maximize energy savings and ensure survivability. Two technological developments in urban forestry—the state-sponsored Treasure Valley Urban Tree Canopy Assessment and the Arbor Day Foundation's Energy-Saving Trees tool—provided Idaho Power with the information to facilitate a shade tree project.

The Shade Tree Project operates in a small geographic area each spring and fall, offering no-cost shade trees to residential customers. Participants enroll using the online Energy-Saving Trees tool and pick up their tree at specific events. Unclaimed trees are donated to cities and schools.

Using the online enrollment tool, participants locate their home on a map, select from a list of available trees, and evaluate the potential energy savings associated with planting in different locations. During enrollment, participants learn how trees planted to the west and east save more energy over time than trees planted to the south and north.

Ensuring the tree is planted properly helps it grow to provide maximum energy savings. At the tree pickup events, participants receive additional education on where to plant trees for maximum energy savings and other tree care guidance from experts. Local specialists include city arborists from participating municipalities; Idaho Power utility arborists; county master gardeners; and College of Southern Idaho horticulture students.

Each fall, Idaho Power sends participants from the previous two offerings a newsletter filled with reminders on proper tree care and links to resources, such as tree care classes and educational opportunities in the region. This newsletter was developed after the 2015 field audits identified common customer tree care questions and concerns.

Program Activities

In 2018, Idaho Power expanded the Shade Tree Project to include additional counties. In the spring, the project was open to customers in Twin Falls, Jerome, Gooding, Camas, Lincoln, Minidoka, and Cassia counties. In the fall, the project was open to customers in Ada, Canyon, Elmore, Gem, Payette, Owyhee, and Washington counties. Overall, Idaho Power distributed 2,093 trees to residential customers through the Shade Tree Project. Because the best time to plant shade trees is in the spring and fall, Idaho Power held offerings in April and October, with 954 trees and 1,139 trees distributed, respectively.
Idaho Power purchased the trees from a local wholesale nursery in advance of each event. The species offered for each event depended on the trees available at the time of purchase. Idaho Power worked with city and state arborists to select a variety of large-growing, deciduous trees that traditionally grow well in the climate and soils of the participating counties.

Participants picked up the trees at events throughout the project area—two in the spring and four in the fall. Staging several pickup days, locations, and times helps maximize the number of trees picked up. In 2018, 85 percent of all trees were distributed to homeowners.

Idaho Power continues to track the program data in the DSM database. The database is also used to screen applicants during enrollment to determine whether participants meet the eligibility requirements for the project, such as residential status within the eligible counties (customer type and location).

Marketing Activities

For both spring and fall offerings, Idaho Power developed a direct-mailing list using Idaho Power customer information to identify customers who lived in a house that had been constructed within the last 10 years. Approximately 8,330 direct-mailers were sent to targeted customers in the spring and 9,501 in the fall.

For both offerings, Idaho Power also sent emails to customers who had requested information about the project through Idaho Power's website. The cities of Nampa, Meridian, Boise, and Payette shared information through their networks. Idaho Power announced its Shade Tree Project to the Treasure Valley Canopy Network. The company also distributed program flyers at local events, where appropriate, and created a vinyl banner for the first event held in Twin Falls.

A cloth poster was available in 2018 to showcase what each tree would look like at full maturity and was a useful reference for customers who had questions. In June, the program was featured in *Connections*, citing the recent visit to Twin Falls and directing customers to the program website to sign up to be notified of future events.

Each recipient of a shade tree received a packet containing planting directions, tips, illustrations, and other useful information. In September 2018, a newsletter was sent to the last season's program participants. Articles discussed the expansion of the program to new locations and tips on how to keep trees healthy. The company also ran a social media post in April thanking the participants and host who

made the Twin Falls event a success (Figure 35). The program was also promoted in the *Home Energy Reports*.

Figure 35. Thank-you post from Idaho Power after Twin Falls Shade Tree Project event

Cost-Effectiveness

For the Shade Tree Project, Idaho Power utilizes the Arbor Day Foundation's software which calculates energy savings and other NEBs based on tree species and orientation and distance from the home. This tool, i-Tree software, estimates these benefits for years 5, 10, 15, and 20 after the tree planting year. However, the savings from the tool assumes that each tree is planted as planned. In 2018, Idaho Power contracted with DNV GL to evaluate the program to determine a realization rate based on the survival rate for these trees and to develop a model to calculate average values per tree.

The cost-effectiveness for the program is based on the modeled savings for the tree distributed in 2018 and the costs incurred during 2018. As shown in Table 11, it is estimated these trees will begin saving 35,425 kWh in 2022 and 116,197 kWh by year 2038. Based on the model, the project has as UCT ratio of 0.71 and a TRC ratio of 0.80.

For the calculator, DNV GL assumed a measure life of 20 years. This is because i-Tree software only estimates saving at 5, 10, 15, and 20 years. In 2018, the bur oak, northern red oak, Greenspire® littleleaf linden, and tulip tree were the most common species distributed in the project. According to the United States Department of Agriculture (USDA), a bur oak can live 300 to 400 years, and a northern red oak can live up to 500 years. The Urban Forest Ecosystem Institute estimates the littleleaf linden can live 50 to 150 years, and the tulip trees can live beyond 150 years. Idaho Power acknowledges the potential energy savings for a tree may continue to increase beyond year 20, but the savings will be capped at some point regardless of how large the tree grows. For the trees distributed in 2018, data around the survivorship beyond 2038 is also unknown. While the energy savings in 2038 is estimated to be 116,197 kWh, the savings may continue to increase at a diminishing rate before eventually declining due to increased mortality. However, if energy savings were to stay constant beyond year 20, it can be

assumed that the program would be cost-effective from both the UCT and RTC perspective if the program life was revised to 30 years.

For non-energy impacts, i-Tree software estimates a monetary benefit value for improved air quality and avoided runoff from stormwater. However, these benefits are largely offset by the heating detriment caused by the winter shade from the tree that requires extra heating for the home. Also, while the tree does remove carbon dioxide from the air, there is also an increase in carbon dioxide from the increased winter home heating.

While an evaluation was conducted for the program in 2018, the evaluations costs will be incurred in 2019. At that time, Idaho Power will calculate the cost-effectiveness ratios with and without evaluation costs.

For more detailed information about the cost-effectiveness savings and assumptions, see *Supplement 1: Cost-Effectiveness*.

Customer Satisfaction

After each offering, a survey was emailed to participants. The survey asked questions related to program marketing, tree-planting education, and participant experience with the enrollment and tree pickup processes. Results are compared, offering to offering, to look for trends to ensure the program processes are still working, and to identify opportunities for improvement. Data are also collected about where and when the participant planted the tree. These data will be used by Idaho Power to refine energy-savings estimates.

In total, the survey was sent to 1,170 Shade Tree Project participants. The company received 696 responses for a response rate of over 59 percent. Participants were asked how much they would agree or disagree that they would recommend the project to a friend; nearly 96 percent of respondents said they "strongly agree," and nearly 3 percent said they "somewhat agree." Participants were asked how much they would agree or disagree that they were satisfied with the overall experience with the Shade Tree Project; over 92 percent of respondents indicated they "strongly agree," and nearly 7 percent "somewhat agree" they were satisfied. View the complete survey results in *Supplement 2: Evaluation*.

Evaluations

In 2018, DNV GL was retained to estimate kWh savings for trees planted during program years 2013 through 2018. DNV GL reconciled program enrollment data with data obtained during Idaho Power audits of a random selection of the trees planted in 2013 to 2016. The audits recorded actual orientation and distance from the home and recalculated savings based on those actual values. The audits also provided mortality data.

DNV GL used estimated kWh savings from i-Trees software to calculate average realization rates and benefits for each planting year, by audited tree species for years 5, 10, 15, and 20 after planting. They assigned these average realization rate assumptions to the unaudited trees and calculated the evaluated savings rates. DNV GL then averaged all values per planting year to calculate the average per-tree benefits and interpolated annual per-tree average benefits for all years.

The total savings and benefits were calculated by multiplying the per-tree average savings by the number of trees planted each year and the estimated survival rate for that year. DNV GL recommends Idaho Power claim future benefits and energy savings as noted in Table 11.

Table 11. Suggested energy savings from DNV GL for the Shade Tree Project

Planting Year	Incremental Annual Savings (kWh)					
	2017	2018	2019	2020	2021	2022
2013	3,724	860	783	756	729	703
2014		34,511	7,974	7,253	7,006	6,759
2015			32,361	7,477	6,802	6,570
2016				34,883	8,060	7,332
2017					45,884	10,602
2018						35,425
Incremental Claimable Annual Savings*	3,724	35,371	41,118	50,370	68,482	67,390
Total Current Year Savings**	3,724	39,095	303,848	277,729	254,723	203,262
Cumulative Savings***	3,724	42,818	346,666	624,395	879,119	1,082,381

*Incremental savings over previously claimed annual savings.
**Total annual savings for trees from all planting years.
***Cumulative savings since program inception.

Idaho Power will respond to any 2018 evaluation recommendations during the 2019 program year. The complete report, including additional calendar-year savings recommendations, can be found in *Supplement 2: Evaluation*.

2019 Program and Marketing Strategies

Idaho Power plans to continue the Shade Tree Project in 2019, returning it to the Twin Falls area in the spring and expanding it to the Pocatello area for the first time in the fall. The project will use the Arbor Day enrollment tool, and trees will be distributed at multiple events.

Idaho Power will continue to market the program through direct-mail, focusing on customers identified using the Urban Tree-Canopy Assessment tool in the Treasure Valley and customer information to identify those customers who live in newly constructed homes. The program will be promoted in the April 2019 *Home Energy Report*. In addition, Idaho Power maintains a waiting list of customers who were unable to enroll because previous offerings filled. Idaho Power will reach out to these customers through direct-mail or email for the 2019 offerings. Idaho Power will continue to leverage allied interest groups and use social media and boosted Facebook posts if enrollment response rates decline.

Simple Steps, Smart Savings™

	2018	2017
Participation and Savings		
Participants (products)	7,377	12,556
Energy Savings (kWh)	241,215	900,171
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	$86,721	$185,354
Oregon Energy Efficiency Rider	$3,762	$5,811
Idaho Power Funds	$0	$456
Total Program Costs—All Sources	$90,484	$191,621
Program Levelized Costs		
Utility Levelized Cost ($/kWh)	$0.034	$0.020
Total Resource Levelized Cost ($/kWh)	$0.050	$0.051
Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	1.44	2.38
Total Resource Benefit/Cost Ratio	4.68	5.05

Description

Initiated in 2015, the Simple Steps, Smart Savings™ program is designed to increase sales of qualified energy-efficient appliances through promotion-based incentives. Incentives are shared by the retailer, manufacturer, and the customer, though they may differ among promotions and among retailers and manufacturers.

Idaho Power may provide incentives to the retailer or manufacturer as co-marketing dollars to fund activities such as promotional events, special product placement, point-of-purchase signage, retailer activities, event kits, sales associate training, training material, and other marketing activities during the promotional periods.

Customer rewards may include, but are not limited to, retailer gift cards, free related products, or reduced pricing. Each promotion is available in Idaho and Oregon.

Idaho Power also participates in the BPA-sponsored, Simple Steps, Smart Savings energy-efficient lighting program, which is discussed further in the Energy Efficient Lighting program section of this report. All Simple Steps, Smart Savings promotions are administered by the BPA and coordinated by a third-party contractor, CLEAResult.

Program Activities

In 2018, the qualified products included select ENERGY STAR® rated clothes washers and high-efficiency showerheads. The incentive provided by Idaho Power through this program for clothes washers was applied during special promotions, which aligned with holidays or events throughout the year at retail stores. The promotion for showerheads ran the entire year.

Appliances

In 2018, Idaho Power participated in five major Simple Steps, Smart Savings appliance promotions with these retailers: Sears, Sears Hometown, and RC Willey.

At each event, CLEAResult personnel staffed a table and answered customer questions about the appliance promotion. To further educate customers about the promotions, CLEAResult created an Idaho Power-branded promotional landing page that highlights promotion details and participating retailers.

The five promotions took place as follows: 1) the 2017 Black Friday promotion took place in November through the first week of December—because invoice of sales for this promotion is not received until the following month, they are included with the remaining four 2018 promotions; 2) the President's Day promotion ran for two weeks in February; 3) the Memorial Day promotion ran the last week in May through the first week in June; 4) the Independence Day promotion ran the last week in June through the first two weeks in July; and 5) the Labor Day promotion ran the last week in August through the first week in September. In-store events were held at all participating retailers in Idaho Power's service area during the promotions.

Incentives for the purchase of a qualified ENERGY STAR clothes washer included a $25 gift card at Sears, a $25 instant markdown at Sears Hometown, and a $25 gift card at RC Willey. RC Willey added $10 to the $25 provided to allow them to offer a $35 gift card to customers for the first three promotions. The additional $10 was not included in the incentive for the Independence Day and Labor Day promotions.

Showerheads

In 2018, Idaho Power worked with seven participating retailers on the high-efficiency showerhead promotion. There were 6,558 qualified showerhead sales, as compared to 11,528 in 2017. Of those sales, 14 percent were 1.50 gpm, 8 percent were 1.75 gpm, and 78 percent were 2.0 gpm showerheads. One possible reason for the large decrease in showerhead sales may be a result of the reduction in incentive amount from 2017 to 2018. In 2017, customers received a $7 instant markdown for the purchase of a qualified showerhead. In 2018, the instant markdown incentive was decreased to $6 for 1.75 and 1.50 gpm showerheads and $2 for 2.0 gpm showerheads.

Marketing Activities

To help support the appliance promotions, table tents and static clings were displayed on all qualifying appliances. These pieces informed customers about the promotion and the incentive they would receive. In-store gift cards were placed in gift card holders that displayed the Idaho Power logo. For purchases from Sears Hometown, where the customer received an instant markdown, customers also received a thank-you card with the Idaho Power logo. Additionally, CLEAResult field support staffed a table at 15 appliance promotion events to educate customers and sales staff of the Idaho Power incentives.

Several Simple Steps, Smart Savings promotions were conducted through CLEAResult at retail stores in 2018. These promotions generally involved special product placement and signs. CLEAResult staff continued to conduct monthly store visits in 2018 to check on stock, point-of-purchase signs, and displays.

During the promotions, Idaho Power placed Facebook and Twitter posts to notify customers of the details. Idaho Power posted information about the appliance promotions on its Appliances web page and promoted ENERGY STAR washers in its winter *Energy Efficiency Guide*.

Cost-Effectiveness

In late 2016, the RTF reviewed and updated the savings assumptions for showerheads. Due to the timing of the RTF update, BPA and CLEAResult implemented the new savings in 2018. Previously, the annual savings for showerheads ranged between 65 to 111 kWh. Based on the new workbook, showerhead annual savings are now between 15 and 64 kWh. The parameters that impacted the savings for showerheads include assumptions regarding the baseline showerhead, installation rate, and shower duration. As with past RTF workbooks, Idaho Power adjusts the assumptions regarding electric water heating saturation from the regional average of 60 percent to the company's average of 49 percent from the 2016 residential end-use study.

Despite the reduction in savings, showerheads remain cost-effective because there is no incremental cost between the efficient showerhead and the baseline showerhead. The RTF researched the pricing for showerheads and found that the cost did not differ significantly between similar models with varying flow rates.

The clothes washer assumptions did not change between 2017 and 2018. Idaho Power applied the per-unit savings from the approved BPA unit energy savings (UES) Measure List. While BPA applies the annual generator busbar savings of 109 kWh per unit, Idaho Power applies the annual site savings of 101 kWh per unit. This difference is due to the different line losses applied by Idaho Power and BPA. For the NEBs, Idaho Power used RTF's clothes washer workbook to determine the water and wastewater savings for the ENERGY STAR clothes washers.

For detailed information for all measures within the Simple Steps, Smart Savings program, see *Supplement 1: Cost-Effectiveness*.

2019 Program and Marketing Strategies

Idaho Power has committed to participate in the 2019 Simple Steps, Smart Savings appliance promotions, providing incentives only for products that meet Idaho Power's cost-effectiveness requirements. In 2019, the appliance promotion will work on becoming a year-round promotion. Beginning in February, RC Willey plans to begin offering incentives on qualified products throughout the year. CLEAResult will work with Sears Hometown and Lowe's to finalize contracts to begin offering the promotion year-round at their stores. Idaho Power and CLEAResult are in the process of contacting additional retailers to determine interest levels.

Idaho Power will also continue participation in the Simple Steps, Smart Savings energy-efficient showerheads buy-down program in 2019.

CLEAResult will continue to manage marketing at retailers, including point-of-purchase signs, Idaho Power-branded gift card holders, and thank-you cards. Idaho Power will notify customers of the promotions on its website, Facebook, and Twitter pages.

Weatherization Assistance for Qualified Customers

	2018	2017
Participation and Savings		
Participants (homes/non-profits)	193	203
Energy Savings (kWh)	649,505	669,538
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	$0	$0
Oregon Energy Efficiency Rider	$0	$0
Idaho Power Funds	$1,272,973	$1,307,485
Total Program Costs—All Sources	$1,272,973	$1,307,485
Program Levelized Costs		
Utility Levelized Cost ($/kWh)	$0.111	$0.111
Total Resource Levelized Cost ($/kWh)	$0.159	$0.152
Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	0.43	0.37
Total Resource Benefit/Cost Ratio	0.52	0.48

Description

The WAQC program provides financial assistance to regional CAP agencies in Idaho Power's service area. This assistance helps fund weatherization costs of electrically heated homes occupied by qualified customers who have limited incomes. Weatherization improvements enable residents to maintain a more comfortable, safe, and energy-efficient home while reducing their monthly electricity consumption. Improvements are available at no cost to qualified customers who own or rent their homes. These customers also receive educational materials and ideas on using energy wisely in their homes. Local CAP agencies determine participant eligibility according to federal and state guidelines. The WAQC program also provides limited funds to weatherize buildings occupied by non-profit organizations that serve primarily special-needs populations, regardless of heating source, with priority given to the electrically heated.

In 1989, Idaho Power began offering weatherization assistance in conjunction with the State of Idaho Weatherization Assistance Program (WAP). In Oregon, Idaho Power offers weatherization assistance in conjunction with the State of Oregon WAP. This allows CAP agencies to combine Idaho Power funds with federal LIHEAP weatherization funds to serve more customers with special needs in electrically heated homes.

Idaho Power has an agreement with each CAP agency in the service area for the WAQC program that specifies the funding allotment, billing requirements, and program guidelines. Currently, Idaho Power oversees the program in Idaho through five regional CAP agencies: Eastern Idaho Community Action Partnership (EICAP), El Ada Community Action Partnership (EL ADA), Metro Community Services (Metro Community), South Central Community Action Partnership (SCCAP), and Southeastern Idaho Community Action Agency (SEICAA). In Oregon, Community Connection of Northeast Oregon, Inc. (CCNO), and Community in Action (CINA) provide weatherization services for qualified customers.

The Idaho Department of Health and Welfare (IDHW) uses the DOE-approved energy audit program (EA5) for the Idaho WAP and, therefore, the Idaho CAP agencies use the EA5. The EA5 is energy audit software approved for use by the DOE.

Annually, Idaho Power requires physical verification of approximately 10 percent of the homes weatherized under the WAQC program. This is done through two methods. The first method uses Idaho's and Oregon's state monitoring process that reviews weatherized homes. Utility representatives; weatherization personnel from the CAP agencies; CAPAI; and a Building Performance Institute (BPI)-certified quality control inspector review homes weatherized by each of the CAP agencies. The quality control inspector is hired by the state to ensure measures were installed to DOE and state WAP specifications.

For the second method, Idaho Power contracts with two companies—Kent Kearns Enterprises and Momentum, LLC (Momentum)—that employ building performance specialists to verify installed measures in customer homes. Kent Kearns Enterprises verifies homes weatherized for the WAQC program in Idaho Power's eastern and southern Idaho regions. Momentum verifies weatherization services provided through the WAQC program in the Capital and Canyon–West regions of Idaho and in the company's Oregon service area. After these companies verify installed measures, any required follow-up is done by CAP agency personnel.

Idaho Power reports the activities related to the WAQC program in compliance with IPUC Order No. 29505, as updated in Case No. IPC-E-16-30, Order No. 33702. This order approved Idaho Power's request to modify Order No. 29505 to consolidate the WAQC Annual Report with the DSM Annual Report each year.

This report includes the following required topics:

- Review of weatherized homes and non-profit buildings by county
- Review of measures installed
- Overall cost-effectiveness
- Customer education and satisfaction
- Plans for 2019

Program Activities

Weatherized Homes and Non-Profit Buildings by County

In 2018, Idaho Power made $1,315,372 available to Idaho CAP agencies. Of the funds provided, $1,184,987 were paid to Idaho CAP agencies in 2018, while $130,384 were accrued for future funding. Of the funds paid in 2018, $1,041,175 directly funded audits, energy efficiency measures, and health and safety measures for qualified customers' homes (production costs) in Idaho, and $104,117 funded administration costs to Idaho CAP agencies for those homes weatherized.

These funds provided for the weatherization of 188 Idaho homes and two Idaho non-profit buildings. The production cost of the non-profit building weatherization measures was $36,085, while $3,609 in administrative costs were paid for the Idaho non-profit building weatherization jobs. In Oregon, Idaho Power paid $11,805 in production costs for three qualified homes and $1,181 in CAP agency

administrative costs for homes in Malheur County. Table 12 shows each CAP agency, the number of homes weatherized, production costs, the average cost per home, administration payments, and total payments per county made by Idaho Power.

Table 12. WAQC activities and Idaho Power expenditures by agency and county in 2018

Agency/County	Number of Homes	Production Cost	Average Cost	Administration Payment to Agency	Total Payment
Idaho Homes					
EICAP					
Lemhi	3	$ 11,625	$ 3,875	$ 1,163	$ 12,788
Agency Total	**3**	**$ 11,625**	**$ 3,875**	**$ 1,163**	**$ 12,788**
EL ADA					
Ada	58	331,742	5,720	33,174	364,917
Elmore	20	120,555	6,028	12,056	132,611
Owyhee	13	64,501	4,962	6,450	70,951
Agency Total	**91**	**$ 516,799**	**$ 5,679**	**$ 51,680**	**$ 568,479**
Metro Community Services					
Boise	2	7,240	3,620	724	7,964
Canyon	24	137,944	5,748	13,794	151,738
Gem	3	19,446	6,482	1,944	21,391
Payette	3	12,559	4,186	1,255	13,815
Valley	16	95,987	5,999	9,598	105,586
Agency Total	**48**	**$ 273,177**	**$ 5,691**	**$ 27,318**	**$ 300,494**
SCCAP					
Blaine	2	11,016	5,508	1,101	12,118
Gooding	6	33,819	5,636	3,382	37,200
Jerome	4	36,046	9,011	3,604	39,650
Twin Falls	15	88,071	5,871	8,807	96,878
Agency Total	**27**	**$ 168,952**	**$ 6,257**	**$ 16,895**	**$ 185,847**
SEICAA					
Bannock	9	29,767	3,307	2,977	32,744
Bingham	8	30,559	3,820	3,056	33,615
Power	2	10,296	5,148	1,030	11,325
Agency Total	**19**	**$ 70,622**	**$ 3,717**	**$ 7,062**	**$ 77,685**
Total Idaho Homes	**188**	**$ 1,041,175**	**$ 5,538**	**$ 104,117**	**$ 1,145,293**
Non-Profit Buildings					
Twin Falls	1	24,042	24,042	2,404	26,446
Power	1	12,043	12,043	1,204	13,248
Total Non-Profit Buildings	**2**	**$ 36,085**	**$ 18,043**	**$ 3,609**	**$ 39,694**
Oregon Homes					
CCNO					
Baker	0	0	0	0	0
Agency Total	**0**	**$ 0**	**0**	**$ 0**	**$ 0**
CINA					
Malheur	3	11,805	3,935	1,181	12,986
Agency Total	**3**	**$ 11,805**	**$ 3,935**	**$ 1,181**	**$ 12,986**

Agency/County	Number of Homes	Production Cost	Average Cost	Administration Payment to Agency	Total Payment
Total Oregon Homes	**3**	**$ 11,805**	**$ 3,935**	**$ 1,181**	**$ 12,986**
Total Program	**193**	**$ 1,089,066**	**$ 5,643**	**$ 108,907**	**$ 1,197,972**

Note: Dollars are rounded.

The base funding for Idaho CAP agencies is $1,212,534 annually, which does not include carryover from the previous year. Idaho Power's agreements with CAP agencies include a provision that identifies a maximum annual average cost per home up to a dollar amount specified in the agreement between the CAP agency and Idaho Power. The intent of the maximum annual average cost allows the CAP agency flexibility to service some homes with greater or fewer weatherization needs. It also provides a monitoring tool for Idaho Power to forecast year-end outcomes. The average cost per home weatherized is calculated by dividing the total annual Idaho Power production cost of homes weatherized by the total number of homes weatherized that the CAP agencies billed to Idaho Power during the year.
The maximum annual average cost per home the CAP agencies were allowed under the 2018 agreement was $6,000. In 2018, Idaho CAP agencies had a combined average cost per home weatherized of $5,538. In Oregon, the average was $3,935 per home weatherized.

There is no maximum annual average cost for the weatherization of buildings occupied by non-profit agencies.

CAP agency administration fees are equal to 10 percent of Idaho Power's per-job production costs. The average administration cost paid to agencies per Idaho home weatherized in 2018 was $554, and the average administration cost paid to Oregon agencies per Oregon home weatherized during the same period was $394. Not included in this report's tables are additional Idaho Power staff labor, marketing, home verification, and support costs for the WAQC program totaling $49,218 for 2018. These expenses were in addition to the WAQC program funding requirements in Idaho specified in IPUC Order No. 29505.

In compliance with IPUC Order No. 29505, WAQC program funds are tracked separately, with unspent funds carried over and made available to Idaho CAP agencies in the following year. In 2018, $102,838 in unspent funds from 2017 were made available for expenditures in Idaho. Table 13 details the funding base and available funds from 2017 and the total amount of 2018 spending.

Table 13. WAQC base funding and funds made available in 2018

Agency	2018 Base	Available Funds from 2017	Total 2018 Allotment	2018 Spending
Idaho				
EICAP	$ 12,788	$ 0	$ 12,788	$ 12,788
EL ADA	568,479	0	568,479	568,479
Metro Community Services*	302,259	-1,765	300,494	300,494
SCCAP	167,405	70,397	237,802	185,847
SEICAA	111,603	7,871	119,474	77,685
Non-profit buildings	50,000	26,334	76,334	39,694
Idaho Total	**$ 1,212,534**	**$ $102,838**	**$ $1,315,372**	**$ $1,184,987**

Note: Dollars are rounded.
*Overspending of Metro Community Services in 2017 was deducted from 2018 MCS base funding.

Weatherization Measures Installed

Table 14 details home and non-profit building counts for which Idaho Power paid all or a portion of each measure cost during 2018. The home counts column shows the number of times any percentage of that measure was billed to Idaho Power during the year. If totaled, measure counts would be higher than total homes weatherized because the number of measures installed in each home varies.

WAQC and other state Weatherization Assistance Programs nationwide are whole-house programs that offer several measures that have costs but do not necessarily save energy, or for which the savings cannot be measured. Included in this category, as required by DOE, are health and safety measures and home energy audits. Health and safety measures are necessary to ensure weatherization activities do not cause unsafe situations in a customer's home or compromise a home's existing indoor air quality. Idaho Power contributes funding for the installation of items that do not save energy such as smoke and carbon monoxide detectors, vapor barrier, electric panel upgrades, floor registers, boots, kitchen range fans, and venting of bath and laundry areas. While these items increase health, safety, and comfort and are required for certain energy-saving measures to work properly, they increase costs of the job.

Table 14. WAQC review of measures installed in 2018

	Home Counts		Production Costs
Idaho Homes			
Audit	133	$	17,052
Ceiling Insulation	79		68,597
CFLs	46		1,639
Doors	94		69,497
Ducts	39		24,205
Floor Insulation	46		55,500
Furnace Repair	4		626
Furnace Replacement	139		571,223
Health and Safety	25		7,305
Infiltration	111		38,714
Other	24		26,898
Pipes	18		1,640
Refrigerator Replacement	2		1,920
Vents	11		1,031
Wall Insulation	5		1,229
Water Heater	4		5,284
Windows	91		148,817
Total Idaho Homes		**$**	**1,041,175**
Oregon Homes			
Ceiling Insulation	1		1,577
CFLs	1		51
Ducts	2		774
Floor Insulation	3		8,065
Health and Safety	1		561
Infiltration	3		778
Windows	0		0
Total Oregon Homes		**$**	**11,805**

	Home Counts		Production Costs
Idaho Non-Profits			
Audit	2		1,033
Ceiling Insulation	2		3,553
CFLs	0		0
Doors	1		1,718
Ducts	2		4,868
Floor Insulation	1		222
Furnace Replacement	1		4,082
Health and Safety	1		483
Infiltration	2		2,720
Other	2		9,064
Pipes	1		816
Vents	1		41
Wall Insulation	1		1,725
Windows	2		5,761
Total Idaho Non-Profit Measures		**$**	**36,085**

Note: Dollars are rounded.

Marketing Activities

Idaho Power developed and distributed a brochure that provided information about both the WAQC program and Weatherization Solutions for Eligible Customers program. This was meant to help customers realize the company offers more than one way to qualify for weatherization services. Idaho Power actively informed customers about WAQC through energy and resource fairs and other customer contacts, including communication from its Customer Service Center. Information about WAQC is located on the Income Qualified Customers page of Idaho Power's website.

Cost-Effectiveness

Program cost-effectiveness increased in 2018 from both the utility cost and total resource cost perspective. The utility cost ratio ticked up to 0.43 from 0.37, and the TRC B/C ratio increased to 0.52 from 0.48. Cost-effectiveness ratios will decline slightly again in 2019 with full adoption of the 2017 IRP DSM alternate cost assumptions.

Table 15 shows the updated results that identify the difference between homes that received weatherization only vs. homes that were weatherized and upgraded with an efficient heat pump.

Table 15. 2018 savings values for WAQC program

	Weatherization only		Weatherization and heating system change	
Home Type	**kWh/project**	**kWh/ft^2**	**kWh/project**	**kWh/ft^2**
Single-family Homes	1,797	1.16	4,154	2.48
Manufactured Homes	1,734	1.36	4,418	4.30
Multi-family Homes	n/a	1.16	n/a	2.48
Non-profit Buildings	n/a	1.16	n/a	2.48

There were no changes to the values used for reporting between 2016 to 2018. The savings values were updated in 2016 to better align savings by home type and measures installed with the associated installation costs. Per-home savings were updated in late 2018 using 2015 through 2017 weatherization project energy consumption data to keep savings in line with home size, measure bundles, and furnace replacements occurring in the field.

While final cost-effectiveness is calculated based on measured consumption data, cost-effectiveness screening begins during the initial contacts between CAP agency weatherization staff and the customer. In customer homes, the agency weatherization auditor uses the EA5 to conduct the initial audit of potential energy savings for a home. The EA5 compares the efficiency of the home prior to weatherization to the efficiency after the proposed improvements and calculates the value of the efficiency change into a savings-to-investment ratio (SIR). The output of the SIR is similar to the PCT ratio. If the EA5 computes an SIR of 1.0 or higher, the CAP agency is authorized to complete the proposed measures. The weatherization manager can split individual measure costs between Idaho Power and other funding sources with a maximum charge of 85 percent of total production costs to Idaho Power. Using the audit form to pre-screen projects ensures each weatherization project will result in energy savings. The use of the audit tool drives consistent and predictable results from billing analysis of weatherization projects.

The 2018 cost-effectiveness analysis continues to incorporate the following directives from IPUC Order No. 32788:

- Applying a 100-percent net-to-gross (NTG) value to reflect the likelihood that WAQC weatherization projects would not be initiated without the presence of a program
- Claiming 100 percent of project savings
- Including an allocated portion of the indirect overhead costs
- Applying the 10-percent conservation preference adder
- Claiming $1 of benefits for each dollar invested in health, safety, and repair measures
- Amortizing evaluation expenses over a three-year period

Customer Education and Satisfaction

The CAP agency weatherization auditor explains to the customer which measures are analyzed and why. Further education is done as the crew demonstrates the upgrades and how they will help save energy and provide an increase in comfort. Idaho Power provides each CAP agency with energy efficiency guides and energy-savings tips for distribution during home visits. Any customers whose homes are selected for post-weatherization home verification receive additional information and have the opportunity to ask the home verifiers more questions.

Idaho Power used independent, third-party verification companies to ensure the stated measures were installed in the homes and to discuss the program with these customers. In 2018, home verifiers randomly selected and visited 24 homes, requesting feedback about the program. When asked how much customers learned about saving electricity, 18 customers answered they learned “a lot” or “some.”

When asked how many ways they tried to save electricity, 20 customers responded “a lot” or “some.” Three customers did not answer.

A customer survey was used to assess major indicators of customer satisfaction throughout the service area. All program participants in all regions were asked to complete a survey after their homes were weatherized. Survey questions gathered information about how customers learned of the program, reasons for participating, how much customers learned about saving energy in their homes, and the likelihood of household members changing behaviors to use energy wisely.

Idaho Power received survey results from 155 of 191 households weatherized by the program in 2018. Of the 155 completed surveys, 152 were from Idaho customers and three were from Oregon customers. Some highlights include the following:

- Over 35 percent of respondents learned of the program from a friend or relative, and another almost 19 percent learned of the program from an agency flyer. Nearly 5 percent learned about the weatherization program from direct-mail.
- Over 79 percent of the respondents reported that their primary reason for participating in the weatherization program was to reduce utility bills, and over 39 percent wanted to improve the comfort of their home.
- Over 76 percent reported they learned how air leaks affect energy usage, and just over 66 percent indicated they learned how insulation affects energy usage during the weatherization process.
- Over 60 percent of respondents said they learned how to use energy wisely. Eighty-five percent reported they were very likely to change habits to save energy, and almost 69 percent reported they have shared all of the information about energy use with members of their household.
- Over 91 percent of the respondents reported they think the weatherization they received will significantly affect the comfort of their home, and almost 97 percent said they were very satisfied with the program.
- Over 84 percent of the respondents reported the habit they were most likely to change was turning off lights when not in use, and 67 percent said that washing full loads of clothes was a habit they were likely to adopt to save energy. Turning the thermostat up in the summer was reported by over 54 percent of the respondents and turning the thermostat down in the winter was reported by 58 percent as a habit they and members of the household were most likely to adopt to save energy.

A summary of the survey is included in *Supplement 2: Evaluation*.

2019 Program and Marketing Strategies

As in previous years, unless directed otherwise, Idaho Power will continue to provide financial assistance to CAP agencies while exploring changes to improve program delivery. The company will continue to provide the most benefit possible to special-needs customers while working with Idaho and Oregon WAP personnel.

Idaho Power will continue to participate in the Idaho and Oregon state monitoring process of weatherized homes and will continue to verify approximately 10 percent of the homes weatherized under the WAQC program via home-verification companies.

In 2019, Idaho Power will support the whole-house philosophy of the WAQC program and Idaho and Oregon WAP by continuing to allow a $6,000 annual maximum average per-home cost.

In Idaho during 2019, Idaho Power expects to contribute the base amount plus available funds from 2018 to total approximately $1,342,900 in weatherization measures and agency administration fees. Of this amount, approximately $86,600 will be provided to the non-profit pooled fund to weatherize buildings housing non-profit agencies that primarily serve qualified customers in Idaho.

Idaho Power will continue to maintain the program on its website and other marketing collateral.

Weatherization Solutions for Eligible Customers

	2018	2017
Participation and Savings		
Participants (homes)	141	164
Energy Savings (kWh)	571,741	604,733
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	$998,233	$1,137,209
Oregon Energy Efficiency Rider	$0	$(56,571)*
Idaho Power Funds	$24,237	$28,224
Total Program Costs—All Sources	$1,022,471	$1,108,862
Program Levelized Costs		
Utility Levelized Cost ($/kWh)	$0.112	$0.115
Total Resource Levelized Cost ($/kWh)	$0.112	$0.117
Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	0.37	0.34
Total Resource Benefit/Cost Ratio	0.51	0.45

*Oregon Rider charges were reversed and charged to the Idaho Rider in February 2017

Description

Weatherization Solutions for Eligible Customers is an energy efficiency program designed to serve Idaho Power residential customers in Idaho whose income falls between 175 percent and 250 percent of the current federal poverty level. Initiated in 2008, the program is designed to mirror the WAQC program. These customers often do not have disposable income to invest in energy efficiency upgrades, and they typically live in housing similar to WAQC customers.

The Weatherization Solutions program also benefits certain customers on the WAQC waiting list. When customer income overlaps both programs, this program may offer an earlier weatherization date than WAQC, resulting in less wait time for the customer and quicker energy savings.

Potential participants are interviewed by a participating contractor to determine household occupant income eligibility, as well as to confirm the home is electrically heated. If the home is a rental, the landlord must agree to maintain the unit's current rent for a minimum of one year, and to help fund a portion of the cost of weatherization. If the customer is eligible, an auditor inspects the home to determine which upgrades will save energy, improve indoor air quality, and/or provide health and safety for the residents. To be approved, energy efficiency measures and repairs must have an SIR of 1.0 or higher, interact with an energy-saving measure, or be necessary for the health and safety of the occupants.

The Weatherization Solutions for Eligible Customers program uses a home audit tool called the HAT14.1 which is similar to the EA5 audit tool used in WAQC. The home is audited for energy efficiency measures, and the auditor proposes upgrades based on the SIR ratio calculated by HAT14.1. As in WAQC, if the SIR is 1.0 or greater, the contractor is authorized to upgrade that measure. Measures considered for improvement are window and door replacement; ceiling, floor, and wall insulation; HVAC repair and replacement; water heater repair and replacement; and pipe wrap. Also included is the

potential to replace lightbulbs and refrigerators. Contractors invoice Idaho Power for the project costs, and if the home is a rental, a minimum landlord payment of 10 percent of the cost is required.

Idaho Power's agreement with contractors includes a provision that identifies a maximum annual average cost per home. The intent of the maximum annual average cost is to allow contractors the flexibility to service homes with greater or fewer weatherization needs. It also provides a monitoring tool for Idaho Power to forecast year-end outcomes.

Program Activities

In 2018, contractors weatherized 141 Idaho homes for the program: nine in eastern Idaho by Savings Around Power and Energy Solutions; 60 in Idaho Power's Canyon–West Region by Metro Contractors Services, LLC.; 50 in south-central Idaho by Home Energy Management, LLC (HEM-LLC); and 22 in the company's Capital Region by Power Savers. Of those 141 homes weatherized, 95 were single-family, 42 were manufactured homes, and four were multi-family units.

Marketing Activities

The company used several strategies to reach customers in income-eligible electrically heated homes. In February, a bill insert was sent to 346,672 customers in Idaho and another was mailed to 330,390 in October. The program was promoted at events targeting customers with limited incomes, including seniors. Ads and articles promoted the program in the *Senior BlueBook* in both spring and fall. Letters were mailed to targeted customers in the South-East Region in September (6,156 customers) and to customers in the Capital Region in October (4,938). The program was also highlighted in Idaho Power's November *Connections* newsletter, which is sent to all customers. A *News Scans* article highlighted a Weatherization Solutions customer in July.

Idaho Power ran Facebook ads in March and July 2018 and regular Facebook and Twitter posts in June (Figure 36). The regular posts reached 2,500 people on Facebook, with 21 likes and 4 shares. The March paid ad reached 107,000 people with 357,225 impressions. The July ad reached 95,376 people and had 334,810 impressions. Weatherization tips were also mentioned in various social media posts.

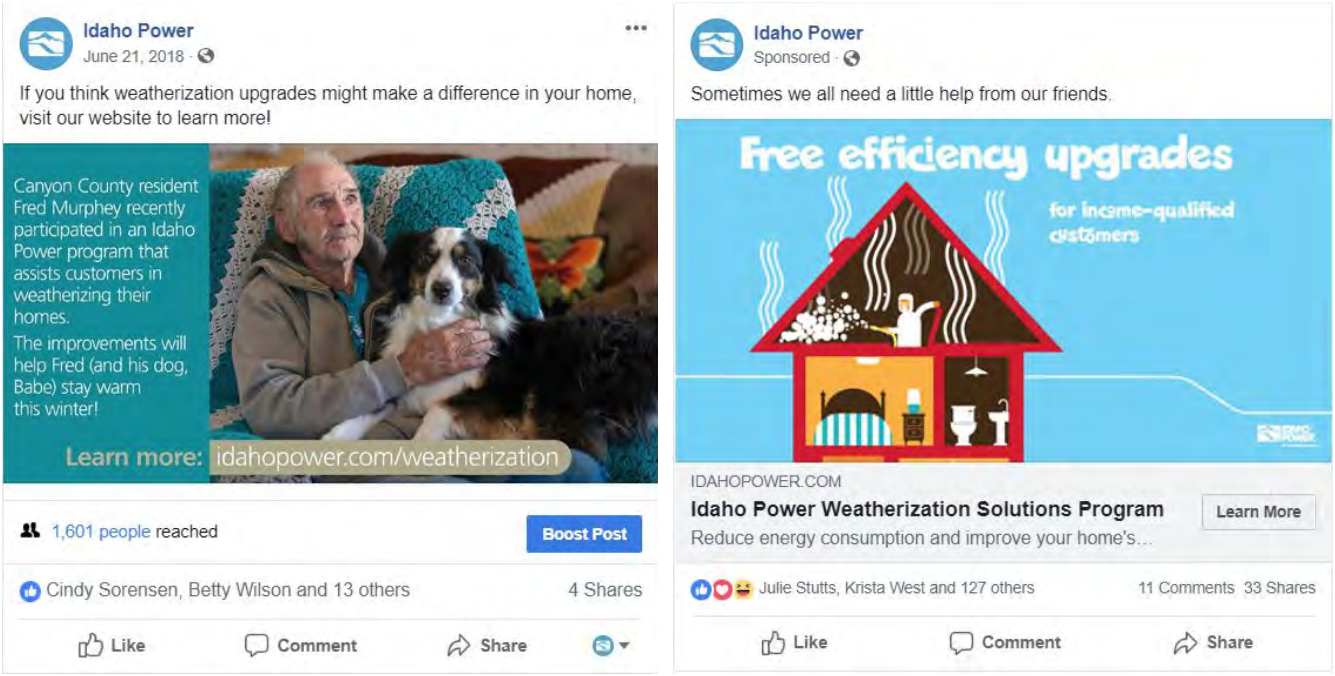

Figure 36. Social media post and paid ad for Weatherization Solutions for Eligible Customers program

Idaho Power's community relations representatives, education representatives, and customer representatives promoted the program at meetings and events in their communities such as American Falls Days. The program specialist and customer representatives promoted the program to home healthcare provider groups, senior groups, and members of the Idaho Nonprofit Center. CAP Agency personnel also promoted the program at community events such as the National Alliance on Mental Illness (NAMI) resource fair and the Treasure Valley Community Resource Fair. Updated brochures (in English and Spanish) that included current income qualifications and location-specific contractor information were used by all. The program was also cross-marketed with other residential energy efficiency programs, such as Home Energy Audit.

Cost-Effectiveness

Benefit-cost ratios increased slightly in 2017. The 2018 utility cost B/C ratio is 0.37, up from 0.34, and the TRC B/C ratio is 0.51 compared with 0.45 in 2017.

Weatherization Solutions for Eligible Customers projects, similar to WAQC program guidelines, benefit from a pre-screening of measures through a home audit process. The home audit process ensures there is an adequate number of kWh savings to justify the project and provides more consistent savings for billing analysis. See WAQC cost-effectiveness for a discussion of the audit and prescreening process, which is similar for both programs. Weatherization solutions savings will be updated in 2019 from the 2015 to 2017 billing analysis as the nearly 1,000 projects will be analyzed jointly to increase sample sizes and provide more robust model estimates.

For further details on the overall program cost-effectiveness assumptions, see *Supplement 1: Cost-Effectiveness*.

Customer Satisfaction

A customer survey was used to assess major indicators of customer satisfaction with the program throughout the service area. All program participants in all regions were asked to complete a survey after their homes were weatherized. Survey questions gathered the following information: how customers learned of the program, reasons for participating, how much customers learned about saving energy in their homes, and the likelihood of household members changing behaviors to use energy wisely.

Idaho Power received survey results from 109 of 141 households weatherized by the program in 2018. Some highlights include the following:

- Over 24 percent of respondents learned of the program from a friend or relative, and another almost 18 percent learned of the program from an agency flyer. Over 37 percent learned about the weatherization program from direct-mail.
- Over 80 percent of the respondents reported that their primary reason for participating in the weatherization program was to reduce utility bills, and over 29 percent wanted to improve the comfort of their home.
- Over 88 percent reported they learned how air leaks affect energy usage, and nearly 78 percent indicated they learned how insulation affects energy usage.
- Over 65 percent of respondents said they learned how to use energy wisely. Seventy-four percent reported they were very likely to change habits to save energy, and almost 69 percent reported they have shared all of the information about energy use with members of their household.
- Over 84 percent of the respondents reported they think the weatherization they received will significantly affect the comfort of their home, and almost 95 percent said they were very satisfied with the program.
- Over 73 percent of the respondents reported the habit they were most likely to change was turning off lights when not in use, and over 59 percent said that washing full loads of clothes was a habit they were likely to adopt to save energy. Turning the thermostat up in the summer was reported by over 57 percent of the respondents and turning the thermostat down in the winter was reported by nearly 72 percent as a habit they and members of the household were most likely to adopt to save energy.

A summary of the survey is included in *Supplement 2: Evaluation*.

Two independent companies performed random verifications of weatherized homes and visited with customers about the program. In 2018, 22 homes were verified, and 17 (77 percent) of those customers reported they learned “a lot” or “some” about saving electricity in their home. Twenty-one customers (95 percent) reported they had tried “a lot” or “some” different ways to save electricity in their home.

2019 Program and Marketing Strategies

Idaho Power does not anticipate any program operating changes in 2019. Idaho Power will update brochures as necessary to help spread the word about the program in all communities. Additional marketing for the program will include bill inserts and advertisements in various regional publications,

particularly those with a senior and low-income focus. Social media ads and boosts will be considered to target specific regions to increase and maintain program awareness. Regional marketing will also be based on need as evidenced by any regional contractor's waiting list for Weatherization Solutions services. The program will again be promoted at county fairs, home shows, and resource fairs, as needed.

Commercial/Industrial Sector Overview

Idaho Power's commercial sector consists of over 71,104 commercial, governmental, school, and small-business customers. In 2018, the number of commercial sector customers increased by 1,254 or 1.8 percent from 2017. The energy usage of commercial customers varies from a few kWh each month to several hundred thousand kWh per month. The commercial sector represents 26 percent of Idaho Power's total electricity sales.

The industrial and special contract customers are Idaho Power's largest individual energy consumers. There are 118 Rate 19 and special contract industrial customers. These customers account for approximately 23 percent of Idaho Power's total electricity sales.

The three C&I Energy Efficiency Program options are available to all commercial, industrial, governmental, schools, and small-business customers. DVL GL conducted a process evaluation for the program in 2017, and the company responded to recommendations in 2018. Also in 2018, the company distributed industry-specific, no-cost ESKs to small commercial customers.

The 2018 season was the fourth year of the internally managed Flex Peak Program, a demand response program designed to reduce the demand on Idaho Power's system during periods of extreme peak electricity use. Program results were slightly reduced from the 2017 season, with a maximum achieved reduction of 33 MW. The program included 65 participants at 140 sites.

Idaho Power also offers the statutory-required Oregon Commercial Audits program to medium and small commercial customers.

Table 16. Commercial/industrial sector program summary, 2018

			Total Cost		Savings	
Program	**Participants**		**Utility**	**Resource**	**Annual Energy (kWh)**	**Peak Demand (MW)**
Demand Response						
Flex Peak Program	140	sites	$ 433,313	$ 433,313		32.9
Total			**$ 433,313**	**$ 433,313**		**32.9**
Energy Efficiency						
Commercial Energy-Saving Kit	1,652	kits	$ 146,174	$ 146,174	442,170	
Custom Projects	248	projects	8,808,512	16,112,540	46,963,690	
Green Motors—Industrial	25	motor rewinds			64,167	
New Construction	104	projects	2,069,645	5,054,215	13,378,315	
Retrofits	1,358	projects	5,990,179	16,253,716	34,910,707	
Total			**$ 17,014,509**	**$ 37,566,644**	**95,759,049**	

Note: See Appendix 3 for notes on methodology and column definitions.

Marketing

In 2018, Idaho Power continued to market the C&I Energy Efficiency Program as a single entity with incentives for New Construction, Retrofits, Custom Projects, and the new Commercial Energy-Saving Kits, in addition to the company's demand response program, Flex Peak. Marketing activities were

targeted toward the following customers: commercial, industrial, governmental, schools, small businesses, architects, engineers, and other design professionals.

Bill Inserts

In March, a bill insert highlighting how Idaho Power's incentives can save customers money was included in 36,782 business customers' bills. A similar bill insert was sent in 36,097 business customers' bills in August to promote the program.

Print Advertising

Idaho Power expanded its ad campaign (Figure 37) for the C&I Energy Efficiency Program, featuring former program participants and iconic local landscapes to capture the readers' attention. The ads targeted small to large businesses and showed that saving energy and money is for everyone.

The ads ran in the *Idaho Business Review* in April, May, August, September, October, and November; the *Business Insider* in January, February, April, May, June, and September; the *BOC Bulletin* in February and August; Alaska Airline's *Horizon Air Magazine* in October; and the *East Idaho Business Journal* in May, September, and November. Ads also ran in the BOMA membership directory and symposium program, Grow Smart Awards event program, *Idaho Business Review* Top Projects Awards publication, and the Idaho Association of General Contractors membership directory. Additionally, Idaho Power sponsored the Construction section in the *Idaho Business Review's Book of Lists*, which included an ad, company logo in the table of contents, and an article highlighting Idaho Power and the company's energy efficiency programs.

Figure 37. Example of C&I Energy Efficiency Program ad

Direct Mail

Idaho Power sent a direct-mailer to 4,335 small-business customers in November informing them of energy-saving programs and encouraging them to contact their customer representative to order a free Commercial ESK for their business. In response to the recommendation for the program's evaluation, Idaho Power tracked the number of calls to customer solutions advisors as a result of the mailing. The letter resulted in 25 customer calls, 12 of which led to a visit by a customer representative.

Newsletters

Idaho Power promotes energy efficiency and its programs through the company's *Energy@Work* newsletter. Written for small- and medium-sized business customers, Idaho Power mailed this newsletter to 23,916 customers in April and 24,140 customers in November 2018. Content included customer success stories and information on the company's training opportunities, energy efficiency tools and programs, energy portfolio, rates, energy advisors, environmental stewardship, customer satisfaction surveys, system reliability, and more.

Idaho Power also sent a quarterly email newsletter, *Energy Insights*, to its large-commercial and industrial customers. Topics included customer success stories, power quality, improving building performance, the benefits of electric forklifts, training opportunities, rate changes, Idaho Power's energy portfolio, how to improve chiller performance, energy-saving maintenance strategies for cooling towers, energy trends, energy management systems, and more.

Print Materials

In 2018, Idaho Power began updating its industry-specific tip brochure to incorporate recommendations from the program's process evaluation to start with the energy-use breakdown for the facility type, focus on the most energy intense systems and how to make them more efficient, and mention NEBs. The company also created a new tip brochure for retail facilities.

Airport Advertising

In 2018, approximately 3.8 million people traveled through the Boise Airport; according to airport officials, half of them are traveling for business. To reach the business customer, Idaho Power placed two backlit display ads throughout the airport in 2018. An ad featuring program participants was located in the baggage claim area, while an ad on alternating airport display boards highlighted that all customers want to save money.

Success Stories

The company released success story videos on YouTube featuring Alpine Automotive, Roaring Springs and Wahooz (Figure 38) and the Pocatello School District. The videos were shared on Idaho Power's social media pages and provided a more in-depth look into the companies' experiences working with Idaho Power, the incentives earned, and the energy savings achieved.

Figure 38. Example of success story videos on Idaho Power's YouTube channel

The *Connections* newsletter shared the energy-saving success story of Holt Arena in January and Alpine Automotive in April.

Digital

New in 2018, Idaho Power ran digital display ads targeting business customers. The ads ran on the *Idaho Statesman* business news pages, blogs, and *Business Insider* web pages from March through May. The ads received 985,065 impressions and 1,343 clicks. The company also used search-engine marketing ads—paid ads that appear in online keyword search results—which received 6,506 impressions and 417 clicks.

The company ran digital ads on the *Idaho Business Review* website, and in their weekly and daily email newsletters throughout the year. These ads received 85,378 impressions and 80 clicks to the Idaho Power Savings For Your Business web page. Idaho Power also placed sponsored content articles on the *Idaho Business Review* website in February and March. These articles are written by Idaho Power and appear as online news stories. The sponsored content articles received 148,514 impressions and 139 clicks. In December, Idaho Power began sponsoring the online Business News section of the *Idaho Business Review* which the company plans to continue in 2019.

Social Media

Idaho Power continued using weekly LinkedIn posts focused on energy-saving tips, program details, incentives, and event information. These posts also highlighted companies who used the program and included photos of large-format check presentations and success story videos. When appropriate, these messages were also shared on Idaho Power's Facebook and Twitter pages.

The company continued using paid LinkedIn ads to promote the C&I Energy Efficiency Program. Idaho Power placed several ads targeted toward a variety of job titles that typically have an interest in or input about energy efficiency projects including C-suite executives; engineers; architects; and sustainability,

maintenance, and facilities contacts. Targeting was only available to LinkedIn users in the Boise and Pocatello areas—approximately 93,000 individuals. The ads resulted in 237,402 impressions and 389 website clicks.

Public Relations

Idaho Power provides public relations support to customers who want to publicize the work they have done to become more energy efficient. Upon request, Idaho Power creates large-format checks that are used for media events and/or board meetings. Idaho Power will continue to assist customers with public relations opportunities by creating certificates for display within their buildings and speaking at press events, if requested.

In 2018, Idaho Power produced checks and/or sent news releases for several companies and organizations, including the City of Fruitland, the Nampa School District, the City of Pocatello and Pocatello School District, and SUEZ Water in Boise. SUEZ received an incentive check for $422,083 that will help pay for energy efficiency measures that are saving the water utility more than 2.3 million kWh—enough energy to power about 202 average-sized homes for a year.

Figure 39. Check presentation to SUEZ Water in Boise

As outlined in the Success Stories section above, the public relations team also helped produce a variety of high-quality videos used to promote C&I Energy Efficiency Program across a variety of media.

Association and Event Sponsorships

Idaho Power's C&I Energy Efficiency Program sponsors a number of associations and events, including the Grow Smart awards; Top Projects Awards; BOMA symposium; American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) Technical Conference: American Institute of Architects (AIA) Idaho Chapter Design Awards and the U.S. Green Building Council (USGBC).

Idaho Power sponsored the BOMA Commercial Real Estate Symposium February 13, in Boise. The Idaho Power vice president of customer operations and business development spoke about how the company is positioned to support commercial activity with low rates, renewable energy portfolio, high customer satisfaction and reliability, and energy efficiency programs. The company was acknowledged on the AIA Design Awards web page and displayed table tents and brochures throughout the event.

Outreach

Idaho Power reached out to the Idaho Retailers Association and Idaho Restaurant & Lodging Association to inquire about opportunities to share information about the company's C&I Energy Efficiency Program, provide members with industry-specific tip sheets, and promote the Commercial ESKs for Businesses. The company has not received a response from either association.

Customer Satisfaction

Idaho Power conducts the Burke Customer Relationship Survey each year. In 2018, 59 percent of small business survey respondents indicated Idaho Power is meeting or exceeding their needs with information on how to use energy wisely and efficiently.

Sixty-four percent of small business respondents indicated Idaho Power is meeting or exceeding their needs by encouraging energy efficiency with its customers. Fifty-one percent of Idaho Power small-business customers surveyed in 2018 indicated the company is meeting or exceeding their needs in offering energy efficiency programs, and 28 percent of the small business survey respondents indicated they have participated in at least one Idaho Power energy efficiency program. Of the small business survey respondents who have participated in at least one Idaho Power energy efficiency program, 94 percent are "very" or "somewhat" satisfied with the program.

In 2018, 62 percent of large commercial and industrial survey respondents indicated Idaho Power is meeting or exceeding their needs with information on how to use energy wisely and efficiently.

Seventy-six percent of large commercial and industrial respondents indicated Idaho Power is meeting or exceeding their needs by encouraging energy efficiency with its customers. Seventy-two percent of Idaho Power large commercial and industrial customers surveyed in 2018 indicated the company is meeting or exceeding their needs in offering energy efficiency programs, and 78 percent of the large commercial and industrial survey respondents indicated they have participated in at least one Idaho Power energy efficiency program. Of the large commercial and industrial survey respondents who have participated in at least one Idaho Power energy efficiency program, 93 percent are "very" or "somewhat" satisfied with the program.

Training and Education

In 2018, Idaho Power engineers, program staff, field representatives, and hired consultants continued to provide technical training and education to help customers learn how to identify opportunities to improve energy efficiency in their facilities. The company has found that these activities increase awareness and participation in its energy efficiency and demand response programs and enhance customer satisfaction. To market this service and distribute the training schedule and resources, Idaho Power used its website and *Energy@Work* and *Energy Insights* newsletters. Also, major customer

representatives and program energy efficiency engineers emailed training announcements to existing customers.

During each training session, a major customer representative gave an overview of the commercial and industrial programs available to customers. Idaho Power posted prior years' webinar recordings and related files on its Commercial and Industrial Energy Efficiency training web page.

As part of this outreach activity, Idaho Power collaborated with and supported stakeholders and organizations such as: IDL, BOMA, USGBC, ASHRAE, and International Building Operators Association (IBOA). Using Idaho Power funding, the IDL performed several tasks aimed at increasing the energy efficiency knowledge of architects, engineers, trade allies, and customers. Specific activities included sponsoring a Building Simulation Users Group (BSUG), conducting Lunch & Learn sessions held at various design and engineering firms, and offering a Tool Loan Library (TLL).

Idaho Power delivered 10 technical classroom-based training sessions and two industrial DSM program workshops in 2018 at no cost to the Idaho Power customers. Of the 10 technical sessions, three were two-day classes (one class was presented twice in Boise and Pocatello) and the others were one-day classes. Topics included the following:

- Commercial/Industrial Motor Efficiency (Pocatello)
- Commercial/Industrial Adjustable Speed Drives (Pocatello)
- Compressed Air Challenge Level II—Advanced Management of Compressed Air Systems (Boise)
- Energy Efficiency of Chilled Water Systems (Twin Falls)
- Energy Efficiency of Cooling Towers (Twin Falls)
- Advanced Lighting Control Systems (Boise and Pocatello)
- Energy Efficient Data Center (held live in Boise and video conferenced to Pocatello)
- Industrial Refrigeration Systems Energy Management (Twin Falls)
- HVAC Controls Training (Nampa)
- Optimizing Pumping Systems: A Measurement-Based Approach (Nampa)

The level of participation in 2018 remained high, with 337 attendees for the technical sessions and almost 90 for the program workshops. Customer feedback indicated the average satisfaction level was 94 percent. Idaho Power's average cost to deliver the technical trainings in 2018 was approximately $5,002 per class.

Idaho Power paid at least 50 percent of the cost for Idaho Power customers to take part in IBOA educational classes including the Building Operator Certification (BOC) Level 1 (consisting of eight, day-long classes) and Level 2 (consisting of seven, day-long classes). In 2018, 15 Idaho Power customers attended the Level 1 classes and 10 attended the Level 2 classes.

Field Staff Activities

Idaho Power field staff are on site with customers each day. The field staff uses a variety of Idaho Power-developed programs, tools, and services to help customers with their energy-related questions and challenges. The company sets activity goals for its customer representatives designed to engage customers in the energy efficiency programs such as a specific number of site visits or projects. Additionally, program specialists and engineers work closely with residential and commercial customer representatives to leverage established customer relationships. For example, residential and commercial customer representatives distribute informational materials to trade allies and other market participants who, in turn, support and promote Idaho Power's energy efficiency programs.

Customers regularly ask how to get the most out of their energy dollar. Idaho Power staff has been trained to properly advise customers in the wise use of energy-specific energy efficiency measures and, when needed, can recommend where to find answers. Idaho Power is equipped with experienced engineers, technically proficient personnel, and an extensive network of nationally recognized organizations, contacts at neighboring western electrical utilities, and energy efficiency clearing houses to handle energy-related questions.

Commercial and Industrial Energy Efficiency Program

	2018*	2017
Participation and Savings		
Participants (projects/kits)	3,387	1,441
Energy Savings (kWh)**	95,759,049	85,425,027
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source* **		
Idaho Energy Efficiency Rider	$16,281,639	$14,732,314
Oregon Energy Efficiency Rider	$720,714	$701,336
Idaho Power Funds	$12,156	$23,701
Total Program Costs—All Sources	$17,014,509	$15,457,351
Program Levelized Costs		
Utility Levelized Cost ($/kWh)	$0.015	$0.015
Total Resource Levelized Cost ($/kWh)	$0.032	$0.032
Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	3.75	3.42
Total Resource Benefit/Cost Ratio	1.87	1.81

*Metrics for each option (New Construction, Custom Projects, Retrofits, and Commercial ESKs) are reported separately in appendices and in *Supplement 1: Cost-Effectiveness.*

**2018 total includes 64,167 kWh of energy savings from 25 Green Motors projects.

***Dollars include totals for New Construction, Custom Projects, Retrofits, and Commercial ESKs

Description

Three major program options targeting different energy efficiency projects are available to commercial, industrial, governmental, schools, and small-business customers in the company's Idaho and Oregon service areas: Custom Projects, New Construction, and Retrofits. Idaho Power also offers no-cost, industry-specific ESKs filled with items intended to target smaller commercial customers and introduce them to energy-saving measures.

Custom Projects

The Custom Projects option incentivizes energy efficiency modifications for new and existing facilities. The goal is to encourage energy savings in Idaho and Oregon service areas by helping customers implement energy efficiency upgrades. Incentives reduce customers' payback periods for custom modifications that might not be completed otherwise. The Custom Projects option offers an incentive level of 70 percent of the project cost or $0.18 per kWh for first-year estimated savings, whichever is less. The Custom Projects option also offers energy auditing services to help identify and evaluate potential energy-saving modifications or projects.

Interested customers submit a pre-approval application to Idaho Power for potential modifications that have been identified by the customers, Idaho Power, or by a third-party consultant. Idaho Power reviews each application and works with the customer and vendors to gather sufficient information to support the energy-savings calculations.

Once the project is completed, customers submit a payment request; in some cases, large, complex projects may take as long as two years or more to complete. Every payment application is verified by

Idaho Power staff or an Idaho Power contractor. All lighting projects use the Idaho Power Lighting Tool to calculate the annual energy savings and to determine the incentive.

Each project is reviewed to ensure energy savings are achieved. Idaho Power engineering staff or a third-party consultant verifies the energy savings methods and calculations. Through the verification process, end-use measure information, project photographs, and project costs are collected.

On many projects, especially the larger and more complex projects, Idaho Power or a third-party consultant conducts on-site power monitoring and data collection before and after project implementation. The measurement and verification (M&V) process helps ensure the achievement of projected energy savings. Verifying applicants' information confirms energy savings are obtained and are within program guidelines. If changes in scope take place in a project, Idaho Power will recalculate energy savings and incentive amounts based on the actual installed equipment and performance.

New Construction

The New Construction option enables customers in Idaho Power's Idaho and Oregon service areas to apply energy-efficient design features and technologies to new construction, expansion, or major remodeling projects. New construction and major renovation project design and construction life is much longer than small retrofits and often encompasses multiple calendar years. Originated in 2004, the option currently offers a menu of measures and incentives for efficient lighting, cooling, building shell, controls, appliances, refrigeration, office equipment, and compressed air options. The customer may otherwise lose savings opportunities for these types of projects.

Thirty-three prescriptive measures are offered for: lighting, HVAC, building shell, controls, appliances with electric water heating, refrigeration, office equipment, and compressed air equipment.

Retrofits

The Retrofits option is Idaho Power's prescriptive measure option for existing facilities. This part of the program encourages customers in Idaho and Oregon to implement energy efficiency upgrades by offering incentives on a defined list of measures. Eligible measures cover a variety of energy-saving opportunities in lighting, HVAC, building shell, food-service equipment, and other commercial measures. Customers can also apply for non-standard lighting incentives. A complete list of the measures offered through Retrofits is included in *Supplement 1: Cost-Effectiveness*.

Commercial Energy-Saving Kits

In 2018, Idaho Power began offering industry-specific Commercial ESKs to its commercial customers in Idaho and Oregon as a means to talk about the benefits of each kit item and other energy efficiency program offerings. Each kit contains installation instructions and a variety of items intended to help save energy related to lighting, hot water use, and intermittently used electrical devices. After talking with customers, the company sends the kits through the mail or an energy advisor delivers the kits to area businesses.

Table 17. Commercial Energy-Saving Kit contents by industry

Restaurant	Retail	Office
(3) 9-watt LED Lightbulbs	(2) 9-watt LED Lightbulbs	(2) 9-watt LED Lightbulbs
(2) Bathroom Aerator 1.0 gpm	(2) 8- watt LED BR30	(2) Bathroom Aerator 1.0 gpm
(2) Kitchen Aerator 1.5 gpm	(1) Bathroom Aerator 1.0 gpm	(1) Kitchen Aerator 1.5 gpm
(2) Exit Sign Retrofit	(2) Exit Sign Retrofit	(2) Exit Sign Retrofit
(1) Pre-rinse Spray Valve		(1) Advanced Power Strip

Program Activities

In 2018, Idaho Power made several improvements to the C&I Energy Efficiency Program in response to recommendations from the 2017 process evaluation by DNV GL. Program-level changes are detailed below; option-level changes are detailed in the subsequent subsections. The complete evaluation report is available in the *Demand-Side Management 2017 Annual Report: Supplement 2, Evaluation*.

After the evaluation, Idaho Power contracted with Tetra Tech to create a formal, written logic model to better understand how specific program activities produce results; this will be incorporated into internal program information.

Idaho Power understands the risks related to program operation and example risk registers identified by the evaluator. Idaho Power plans for these risks by utilizing the Energy Efficiency Potential Study which is forward looking and measures the future energy efficiency that can be targeted. Idaho Power utilizes a third party to create a TRM to evaluate an energy efficiency measure's savings and costs. Idaho Power also utilizes EEAG to help plan future program changes. Through these methods Idaho Power believes future risks will be identified and addressed as they arise.

Each year Idaho Power evaluates and moves measures from the Custom Projects option to the Retrofits or New Construction option for better visibility and customer participation when the average savings has been determined by the RTF or through Idaho Power's TRM. Idaho Power also continues to add new measures as appropriate. The evaluator recommended changing the program design to one that intervened at a different level in the market. Idaho Power feels that changing the design to an upstream model (at the manufacturer's level) or midstream model (at the distributor and installer level) is an entirely different program approach that would be considered if the current approach proves inadequate.

To promote the adoption of efficient technologies to standard practice, as recommended by the evaluator, Idaho Power continued to support the work being done by both the RTF and NEEA in the area of market transformation. New measures are evaluated by Idaho Power annually for program applicability and for cost-effectiveness. Idaho Power also uses a third party to create a TRM that evaluates energy savings and equipment costs. On Custom Projects, Idaho Power determines if measures are standard practice before it calculates savings.

Idaho Power has considered the recommendation to consolidate the internal program manuals. The company determined that the program options require different processes and integrating each of the processes into one program manual has limited benefit to program administration.

Idaho Power has considered consolidating the program tracking files, as recommended, and has determined that the program options require different processes and data; integrating to one program

database would require significant effort with limited benefit to program administration and would not lead to any additional actual kWh savings for the program.

Custom Projects

Incentive levels for the non-lighting projects remained the same in 2018, at 18 cents per kWh of first-year savings. Idaho Power reimburses customers up to 70 percent of the project cost.

The Custom Projects option had another successful year with a total of 248 completed projects, 10 of which were in Oregon. Custom Projects achieved energy savings of 46,964 MWh. Energy savings increased in 2018 by nearly 5 percent over 2017. Idaho Power also received 329 new applications representing a potential of 61,251 MWh of savings on future projects.

Over 90 percent of large commercial and industrial customers have participated in the Custom Projects option. With the high percentage of customers who have taken advantage of the program, achieving deeper energy savings continues to be challenging. The company is addressing this ongoing challenge by continuing to use multiple channels to reach customers and to encourage new energy-saving modifications. Table 18 indicates the program's 2018 annual energy savings by primary option measures.

Table 18. Custom Projects annual energy savings by primary option measure, 2018

Option Summary by Measure	Number of Projects	kWh Saved
Retro-commissioning	12	1,062,168
Compressed Air	32	10,468,627
Controls	3	2,663,614
HVAC	3	156,094
Lighting	151	17,131,292
Other	4	339,252
Pump	3	567,331
Refrigeration	10	6,351,813
Variable Frequency Drive (VFD)	30	8,223,499
Total*	**248**	**46,963,690**

*Does not include Green Motor Initiative project counts and savings.

Idaho Power has found providing facility energy auditing, customer technical training, and education services are key to encouraging customers to consider energy efficiency modifications. The 2018 activities not already described in the Commercial and Industrial Sector Overview are below.

Custom Projects engineers and the major customer representatives visited large-commercial and industrial customers to conduct initial facility walk-throughs, commercial/industrial efficiency program informational sessions, and training on specific technical energy-saving opportunities. Idaho Power also hosted a booth at the 2018 Idaho Rural Water Conference. Custom Projects engineers gave presentations on Idaho Power programs and offerings at the 2018 Association of Idaho Cities Annual Conference, the ASHRAE and USGBC Combined Chapter Meeting, the Boise School District Sustainability Summit, the 2018 Idaho Green Building and Energy Conference, and the 2018 Department of Environmental Quality (DEQ) Engineers meeting.

Idaho Power funds the cost of engineering services, up to $4,500, for conducting energy scoping audits to encourage its larger customers to adopt energy efficiency improvements. This was increased from

$3,500 in 2018. Eleven firms contracted to provide scoping audits and general energy efficiency engineering support services. In 2018, an RFP was announced to select a new set of consultants; five firms were selected to provide these services in to 2019.

In 2018, Idaho Power consultants initiated 36 scoping audits and four detailed audits on behalf of Idaho Power customers. These audits identified over 16,300 MWh of savings potential. These audits will be used to promote future projects and will potentially result in energy efficiency projects in the future.

Cohorts and Offerings

The Municipal Water Supply Optimization Cohort (MWSOC), Wastewater Energy Efficiency Cohort (WWEEC), and CEI Cohort for Schools program offerings are also driving a significant number of new projects in addition to increasing vendor engagement from the Streamlined Custom Efficiency (SCE) offering. The company continues to expand the cohort offerings to new customers. In 2018, Custom Projects continued four offerings in an effort to increase the total program savings—WWEEC Continuation, MWSOC, SCE, and the CEI Cohort for Schools—and launched the Eastern Idaho Water Cohort in a joint effort with BPA and Rocky Mountain Power.

Wastewater Energy Efficiency Cohort

In January 2014, Custom Projects launched WWEEC, a cohort training approach for low-cost or no-cost energy improvements for municipal wastewater facilities. WWEEC was a two-year engagement with 11 Idaho Power service area municipalities which continued until 2016. Idaho Power decided to extend the WWEEC to further engaged customers. Seven of the 11 original participants are engaged in the WWEEC Continuation.

Year-three incentives and savings totaled $1,349 and 895,492 kWh/yr. In all cases, the incentive did not exceed 70 percent of the eligible costs. Year-three incentives and savings were processed in 2018. Additionally, some WWEEC participants completed capital projects that were encouraged and discussed in the workshops and energy audits. These capital projects' savings are significant; they are captured separately and recorded as custom projects—not included as WWEEC savings number. In the third year, the consultant contacted participants to check on progress, to discuss opportunities, and to address energy model data updates.

Municipal Water Supply Optimization Cohort

The MWSOC officially launched in January 2016. The goal of the cohort was to equip water professionals with the skills necessary to independently identify and implement energy efficiency opportunities and to ensure that these energy and cost savings are maintained long term.

A final workshop was held in 2018. Participants presented their challenges, successes, and future plans for energy efficiency. Year-one incentives and savings totaled $11,027 and 743,744 kWh/yr with most incentives paid at 70 percent of the eligible cost. Year-one incentives were processed, and savings were reported in 2018. Additionally, some Water Supply Cohort participants completed capital projects that were encouraged and discussed in the workshops and energy audits. These capital projects' savings are significant and recorded as custom projects. The savings are not included as MWSOC savings.

In year-two of the offering, Idaho Power's contractor contacted participants to check on project progress and opportunities and to address energy model data updates. A draft year-two report was created in late 2018 and savings and incentives will be processed in 2019. Due to involvement with the water and wastewater cohort offerings, Custom Projects engineers delivered multiple informational meetings with area civil engineers who specialize in water and wastewater designs to educate them on the C&IE Energy Efficiency Program, the audit process, energy efficiency opportunities, and available tools and resources.

Eastern Idaho Water Cohort

The Eastern Idaho Water Cohort launched in January 2018. The goal of the cohort was to offer the Municipal Water Optimization Supply Cohort to the eastern part of Idaho Power service area. This was accomplished in collaboration with Rocky Mountain Power and BPA to deliver joint workshops for customers located in eastern Idaho. Two Idaho Power customers participated. The first-year savings report is anticipated in 2019.

Continuous Energy Improvement Cohort for Schools

The goal of this cohort is to equip school district personnel with hands-on training and guidance to help them get the most out of their systems while reducing energy consumption. Year-one of The Cohort for Schools ran through the 2017 calendar year. Nine school districts were represented and introduced to the Continuous Energy Improvement (CEI) concepts and planned activities for the cohort. The cohort is implemented by a third-party consultant that provided final M&V reports in early 2018, which resulted in a total energy savings of 1,131,697 kWh/yr for year-one participants.

After year-one reports were reviewed by Idaho Power and incentives paid to the participants, activities were suspended until year-two activities commenced over the summer of 2018. Six participants from year-one continued into the year-two program. Of those six, one district added four new facilities and another district added five new facilities to the program.

Activities in 2018 included opportunity register management for each facility detailing low-cost and no-cost opportunities to reduce energy consumption based on site visits. The consultant worked with each participant to complete as many opportunity register items as possible. The consultant conducted a monthly check-in and coaching call for each school district to review opportunity register items and to discuss their current activities. Scoping audits were initiated by Idaho Power for each new facility that was added to the program, which will identify capital project opportunities, in addition to the low-cost measures being implemented via the cohort, to help aid in the strategic capital planning process. Idaho Power provided program and incentive information, along with numerous other energy-saving resources pertinent to school facilities, in hard copy and on flash drive to each school district.

Year-two activities will continue until May 31, 2019. Then, Idaho Power will review final M&V reports to establish energy savings and eligible costs for year two and to distribute the corresponding incentives to participating school districts.

Streamlined Custom Efficiency

Started in 2013, the SCE offering continues to keep vendor engagement high. The SCE offering provides custom incentives for small compressed-air system improvements, fast-acting doors in

cold-storage spaces, refrigeration controllers for walk-in coolers, and process-related VFDs. This offering targets projects that may have typically been too small to participate in the Custom Projects option due to the resources required to adequately determine measure savings. Idaho Power contracted with a third party to manage SCE data collection and analysis for each project. In 2018, the SCE offering processed 48 projects, totaling 4,193,931 kWh of savings and $562,745 in incentives.

In August 2018, the fast-acting doors and small compressed air measures were moved out of SCE to prescriptive Retrofits and New Construction offerings because Idaho Power had developed a good understanding of the appropriate energy savings, projects costs, and incentives for these types of projects based on SCE experience. The consultant managing SCE will continue to support vendors and customers working with these measures to ensure the correct incentive paperwork and supporting information is submitted to the prescriptive programs.

Custom Efficiency Process Improvements

In 2018, Idaho Power responded to the three recommendations for the Custom Projects option from the 2017 evaluation; all were related to the database where Idaho Power enters customer information. Idaho Power chose not to implement the evaluator's suggestion to store one type of information in each column/variable or to create new variables. It is common for Idaho Power to have the customer's pre- and post-kWh usage for a project, but when that data is unavailable, the company populates the kWh savings in the "kWh before variable" and a zero in the "kWh after variable." The kWh savings are the data that the company is interested in for reporting and recording the data this way provides the same results. The company revised the publicly available option manual to clarify this practice.

The company did adopt the other two recommendations to adjust the database output report. Idaho Power renamed the column/variable titles to clarify the measure and began filling in measure data in chronological order to ensure information is populated in the correct columns.

New Construction

In 2018, 104 projects were completed, resulting in 13,378,315 kWh in energy savings in Idaho and Oregon.

Maintaining a consistent offering is important for large projects with long construction periods, however, changes are made to enhance customers' choices or to meet new code changes. Idaho Power tries to keep the New Construction option consistent by making changes approximately every other year. Idaho Power performed a review of the New Construction measures in 2018 based on the 2015 International Energy Conservation Code (IECC) information updated in the TRM. This review resulted in the addition or modification of several measures and the removal of the evaporative pre-coolers on air cooled condenser measure because it was not cost-effective.

These measures were continued in 2018:

- Exterior lighting
- Daylight photo controls
- Occupancy sensors
- Direct evaporative coolers

- Reflective roof treatment
- HVAC variable-speed drives
- Kitchen hood variable-speed drives
- Onion/potato shed ventilation variable-speed drives
- Efficient laundry machines
- ENERGY STAR® under-counter dishwashers
- ENERGY STAR® commercial dishwashers
- Refrigeration head-pressure controls
- Refrigeration floating-suction controls
- Efficient condensers
- Smart power strips

These measures were added:

- High-volume low-speed fans
- Diary vacuum pump variable speed drives
- Wall/engine block heater controls
- Refrigerator/freezer strip curtains
- Automatic high-speed doors
- Air compressor variable speed drives
- No-loss condensate drain
- Low-pressure drop filters
- Cycling refrigerated compressed air dryers
- Efficiency compressed air nozzles

The following measures were modified due to small clarification issues or changes in measure cost, cost-effectiveness, or code baseline updates:

- Interior lighting
- High-efficiency exit signs
- Efficient A/C and heat pump units
- Efficient variable refrigerant flow units
- Efficient chillers
- Air side economizers

- Energy-management HVAC control systems
- Guest room energy-management HVAC systems

The Professional Assistance Incentive is an incentive given to architects and/or engineers for supporting technical aspects and documentation of the project. It is equal to 10 percent of the participant's total incentive, up to a maximum amount of $2,500. In 2018, 44 projects received this incentive compared to 39 projects in 2017, and 30 projects in 2016.

Idaho Power representatives visited nine architectural and engineering firms in Boise and Pocatello, and four organizations and municipalities in Boise in 2018. Representatives visited with 134 professionals to build relationships with the local design community, and to discuss Idaho Power's C&I Energy Efficiency program.

The New Construction option continued random installation verification on 10 percent of projects in 2018. The purpose of the verifications is to confirm program guidelines and requirements are adequate and to ensure participants are able to provide accurate and precise information with regard to energy efficiency measure installations. The IDL completed on-site field verifications on 12 of the 104 projects, which encompass over 11.5 percent of the total completed projects in the program. Out of the 12 projects verified, only one project verification identified a discrepancy. Idaho Power will review the discrepancy to determine if clarification of program requirements is needed or additional information is required from participants.

In 2018, Idaho Power responded to the two recommendations for the New Construction option from the 2017 evaluation. The company did not adopt the recommendation to eliminate empty cells in the database because the data provided in the application is transferred electronically into a tracking system. The placement of each value is specific to a field in the tracking system. Empty cells are common for measures the participant is not applying for and are required for the proper transfer of data from the application to the tracking system. Idaho Power updated the online application with instructional text based on the evaluator's second recommendation. For example, Idaho Power added mouse-over text to entry cells on the HVAC tab to inform participants of the acceptable size range of units that are eligible for a specific incentive. Idaho Power will continue to make improvements as the applications are updated and modified.

Retrofits

The Retrofits option experienced high participation and energy savings in 2018. Once again, lighting retrofits comprised the majority of the projects.

Idaho Power performed a review of the Retrofits lighting and non-lighting measures. This review resulted in removing some measures from the program due to cost-effectiveness, modifying some measures, and adding new measures to the incentive menu.

Idaho Power facilitated seven program update workshops across its service area targeting electrical contractors, electrical suppliers and large customers, with 143 in attendance. To help contractors understand advanced lighting controls, and in preparation for rolling out Retrofits program changes mid-year, Idaho Power hosted two hands-on technical Advanced Lighting Controls classes with 43 electricians and large customers in attendance. The class was an updated version of the pilot course Idaho Power hosted in 2017. The courses were offered by the DesignLights Consortium (DLC),

and NEEA contributed funds through its Luminaire Level Lighting Controls (LLLC) Initiative. Attendees provided positive feedback and indicated they would like additional training in the area of advanced lighting controls.

Idaho Power staff and contractors continued to work with electrical contractors and electrical equipment suppliers across its service area to respond to inquiries, strengthen relationships, encourage participation, increase knowledge of the incentives, and receive feedback about the market and individual experiences. As Idaho Power staff developed program changes, they contacted various contractors and suppliers for their opinions and feedback to aid in program design.

Idaho Power continued its contracts with Evergreen Consulting Group, LLC; Honeywell, Inc.; and RM Energy Consulting to provide ongoing program support for lighting and non-lighting reviews and inspections, as well as contractor outreach. The Honeywell contract expired at the end of 2018, and Idaho Power retained KW Engineering to replace Honeywell in support of the Retrofits non-lighting project reviews and inspections.

In 2018, Idaho Power responded to the two recommendations for the Retrofits option from the 2017 evaluation. The company is investigating the first recommendation to minimize manual data entry when transferring information from non-lighting project application forms to the program's database, similar to the process used for lighting projects where the data is electronically uploaded to the program database.

To address the second recommendation to improve the application forms, Idaho Power added text to the Lighting Tool Welcome tab to direct the applicant to complete the information in the white cells and to notify them that the blue cells would automatically populate. The company also added written instruction for entering information in the Lighting Operation Schedule section. To eliminate confusion, the company spelled out acronyms throughout the Lighting Tool.

Commercial Energy-Saving Kits

Idaho Power distributed more than 1,600 kits to its commercial customers. Nearly 80 percent of the kit distribution was initiated after a customer spoke with a company representative over the phone.

Table 19. Kit distribution and savings by kit type and state, 2018.

State	Kit Type	Total Distributed	kWh Savings
Idaho	Restaurant	264	187,477
	Retail	155	37,288
	Office	1,202	209,196
Oregon	Restaurant	5	3,550
	Retail	2	481
	Office	24	4,177

Marketing Activities

Since combining the separate commercial and industrial programs into this larger, simplified program, Idaho Power has continued to market the C&I Energy Efficiency Program options to contractors, customers, and professional consultants. See the Sector Overview for the company's efforts to market the C&I Energy Efficiency Program as a single offering.

In response to the 2017 program process evaluation, the company is continuing to update its materials to add more appealing content. The company made the success story videos available on the C&I Energy Efficiency Program web pages and increased its use of customer testimonials and stories in its advertising campaign and elsewhere, when appropriate. Idaho Power also updated its C&I Energy Efficiency slide deck to outline the incentives available and incorporate customer stories. The company continues to use energy efficiency program marketing to enhance Idaho Power's image by informing customers of the programs during high bill calls, explaining why the company encourages energy efficiency and what some of the NEBs are, sharing tips and program information in the *Connections* newsletter, participating in community events when relevant, and more.

Below are the option-specific marketing efforts for 2018.

Custom Projects

In addition to promotion activities mentioned above, Idaho Power produced large-format checks and sent news releases for media events, city council meetings, and/or board meetings.

New Construction

In September, Idaho Power updated its New Construction brochure to incorporate the program changes implemented in August. The company mailed out the brochure along with a letter promoting the New Construction offering to 243 architects and engineers in October.

Idaho Power also began placing banners (Figure 40) on select construction sites highlighting that the facility is being built or enhanced with energy efficiency in mind. Banners were placed at Wilson Elementary in Caldwell and Peace Valley Charter School in Boise.

Figure 40. Idaho Power banner displayed at Wilson Elementary, Caldwell

Retrofits

Idaho Power sent a direct-mail to 23,700 business customers in February highlighting the Retrofits option and informing customers of the New Construction and Custom Project incentives. The direct-mail makes customers aware of the company's energy-saving opportunities and encourages them to contact their customer representative to learn more.

Commercial Energy-Saving Kits

When Idaho Power launched the Commercial ESKs, it intended to use them as a tool for customer representatives to communicate with small businesses. Idaho Power ran a small commercial customer campaign offering direct-mailed kits, created a promotional flyer and web page, sent a press release to media, and mailed a letter to small-business customers.

Cost-Effectiveness

Custom Projects

All projects submitted through the Custom Projects option must meet cost-effectiveness requirements, which include TRC, UCT, and PCT tests from a project perspective. The program requires all costs related to the energy efficiency implementation and energy-savings calculations are gathered and submitted with the program application. Payback is calculated with and without incentives, along with the estimated dollar savings for installing energy efficiency measures. As a project progresses, any changes to the project are used to recalculate energy savings and incentives before the incentives are paid to the participant. To aid in gathering or verifying the data required to conduct cost-effectiveness and energy-savings calculations, third-party engineering firms are sometimes used to provide a scoping audit, a detailed audit, or engineering measurement and verification services available under the Custom Projects option.

The UCT and TRC ratios for the program are 3.85 and 2.32 respectively. An impact evaluation was conducted for the program in 2018. If the amount incurred for the 2018 evaluation was removed from the program's cost-effectiveness, the UCT would be 3.87 while the TRC would remain unchanged at 2.32.

Details for cost-effectiveness are in *Supplement 1: Cost-Effectiveness*.

New Construction

To calculate energy savings for the New Construction option, Idaho Power verifies the incremental efficiency of each measure over a code or standard practice installation baseline. Savings are calculated through two main methods. When available, savings are calculated using actual measurement parameters, including the efficiency of the installed measure compared to code-related efficiency. Another method for calculating savings is based on industry standard assumptions, when precise measurements are unavailable. Since the New Construction option is prescriptive and the measures are installed in new buildings, there are no baselines of previous measurable kWh usage in the building. Therefore, Idaho Power uses industry standard assumptions from the IECC to calculate the savings achieved over how the building would have used energy absent of efficiency measures.

New Construction incentives are based on a variety of methods depending on the measure type. Incentives are calculated mainly through a dollar-per-unit equation using square footage, tonnage, operating hours, or kW reduction.

Based on the current deemed savings value from the TRM, nearly all measures were cost-effective, with the exception of some A/C units and heat pump units. Idaho Power determined these measures met at least one of the cost-effectiveness exceptions outlined in OPUC Order No. 94-590. Idaho Power had received a cost-effectiveness exception on these measures when it filed changes to the program in 2018 under Advice No. 18-08.

To prepare for 2018 program changes, ADM, under contract with Idaho Power, updated the TRM for the New Construction option in 2018. The TRM, which provides savings and costs related to existing and new measures for the New Construction option, will be updated to include the IECC 2015 baseline.

The new savings will be reflected on all applications initiated after the August 2018 program update.

Complete updated measure-level details for cost-effectiveness can be found in the 2018 *Supplement 1: Cost-Effectiveness*. Assumptions for measures prior to the mid-year update can be found in the *Demand-Side Management 2017 Annual Report, Supplement 1: Cost-Effectiveness.*

Retrofits

For the majority of 2018, Idaho Power used most of the same savings and assumptions as were used in 2017 for the Retrofits option. For all lighting measures, Idaho Power uses a Lighting Tool developed by Evergreen Consulting, Group LLC. An initial analysis was conducted to see if the lighting measures shown in the tool were cost-effective based on the average input of watts and hours of operation, while the actual savings for each project are calculated based on specific information regarding the existing and replacement fixture. For most non-lighting measures, deemed savings from the TRM or RTF are used to calculate the cost-effectiveness. To prepare for 2018 program changes, ADM, under contract with Idaho Power, updated the TRM for the Retrofits option. The TRM provides savings and costs related to existing and new measures for the Retrofits option. The new savings will be reflected on all applications submitted after the August 2018 program update.

Several measures that are not cost-effective remain in the program. These measures include high-efficiency A/C units and heat pump units. After reviewing these measures, Idaho Power determined the measures met at least one of the cost-effectiveness exceptions outlined in OPUC Order No. 94-590. These cost-effectiveness exceptions were approved by the OPUC in Advice No. 18-08.

Complete updated measure-level details for cost-effectiveness can be found in *Supplement 1: Cost-Effectiveness*. Assumptions for measures prior to the mid-year update can be found in *the Demand-Side Management 2017 Annual Report, Supplement 1: Cost-Effectiveness.*

Evaluations

In 2018, Tetra Tech MA (Tetra Tech) was retained to conduct an impact evaluation for the Custom Projects option of the C&I Energy Efficiency Program and found an overall realization rate of 100.4 percent.

The results revealed a successfully run program with only minor savings adjustments made mainly due to changes to customer operation after equipment installation. Overall, findings from the impact evaluation show the program savings calculations were reasonable, had accurate equipment descriptions, well substantiated and conservative assumptions, and technically correct calculations for most of the evaluated projects.

Idaho Power will consider any recommendations from this evaluation in 2019. See the complete impact evaluation report in *Supplement 2: Evaluation*.

2019 Program and Marketing Strategies

Idaho Power will expand its promotion of the C&I Energy Efficiency Program to additional online and print business publications. The three options will continue to be marketed as part of Idaho Power's C&I Energy Efficiency Program. Below are specific strategies that apply to the individual components of the program for 2019.

Custom Projects

Over the years, the Custom Projects option has achieved a high service-area penetration rate. As stated previously, more than 90 percent of the large-power service customers have participated in the Custom Projects option. The company is actively working to support these customers in new ways and find additional opportunities for cost-effective energy-saving projects.

Additional program offerings are currently under consideration for implementation in 2019, including an SEM Continuation of Services offering for MWSOC participants who are interested in continuing their success, or have improved their readiness for SEM engagement.

Activities and coaching will continue for the WWEEC continuation participants and the Eastern Idaho Water Cohort. Idaho Power is also investigating details related to continuation and/or expansion of the CEI Cohort for Schools offering beyond the year-two completion scheduled for summer of 2019.

Idaho Power will continue to provide site visits by Custom Projects engineers and energy scoping audits for project identification and energy-savings opportunities; M&V of larger, complex projects; technical training for customers; and funding for detailed energy audits for larger, complex projects.

New Construction

Idaho Power will continue to perform random post-project verifications on a minimum of 10 percent of completed projects, sponsor technical training through the IDL to address the energy efficiency education needs of design professionals throughout the Idaho Power service area, and build relationships with local design professionals and organizations.

Retrofits

Idaho Power will coordinate with NEEA and the Lighting Design Lab (LDL) to offer an advanced lighting controls class to lighting contractors.

Commercial Energy-Saving Kits

In 2019, Idaho Power will continue sending these kits to commercial customers upon request. The company will consider more actively marketing the kits to customers through various methods including social media and direct-mail.

Flex Peak Program

		2018	2017
Participation and Savings			
	Participants (sites)	140	141
	Energy Savings (kWh)	n/a	n/a
	Demand Reduction (MW)	33	36
Program Costs by Funding Source			
	Idaho Energy Efficiency Rider	$58,727	$86,861
	Oregon Energy Efficiency Rider	$64,316	$231,285
	Idaho Power Funds	$310,270	$340,010
	Total Program Costs—All Sources	$433,313	$658,156
Program Levelized Costs			
	Utility Levelized Cost ($/kWh)	n/a	n/a
	Total Resource Levelized Cost ($/kWh)	n/a	n/a
Benefit/Cost Ratios			
	Utility Benefit/Cost Ratio	n/a	n/a
	Total Resource Benefit/Cost Ratio	n/a	n/a

Description

The Flex Peak Program is a voluntary program where participants are eligible to earn a financial incentive for reducing load. The program is available to Idaho and Oregon commercial and industrial customers with the objective to reduce the demand on Idaho Power's system during periods of extreme peak electricity use.

These are the program event guidelines:

- June 15 to August 15 (excluding weekends and July 4)
- Up to four hours per day between 2:00 p.m. and 8:00 p.m.
- Up to 15 hours per week
- No more than 60 hours per season
- At least three events per season

Customers with the ability to offer load reduction of at least 20 kW are eligible to enroll in the program. The 20-kW threshold allows a broad range of customers to participate in the program. Participants receive notification of a load reduction event two hours prior to the start of the event.

The program originated in 2009 as the FlexPeak Management program managed by a third-party contractor. In 2015, Idaho Power took over full administration, and changed the name to Flex Peak Program. The IPUC issued Order No. 33292 on May 7, 2015, while the OPUC approved Advice No. 15-03 on May 1, 2015, authorizing Idaho Power to implement an internally managed Flex Peak Program (Schedule No. 82 in Idaho and Schedule No. 76 in Oregon) and to continue recovering its demand response program costs in the previous manner.

Program Activities

In 2018, 65 participants enrolled 140 sites in the program—five of those sites were new. Existing customers were automatically re-enrolled in the program. Participants had a committed load reduction of 29.4 MW in the first week of the program and ended the season with an amount of 29.6 MW. This weekly commitment, or nomination, was comprised of all 140 sites. The maximum realization rate during the season was 108 percent, and the average for the three events was 89 percent. This is an overall increase from 81 percent in 2017. The realization rate is the percentage of load reduction achieved versus the amount of load reduction committed for an event. The highest hourly load reduction achieved was 33 MW (at generation level) during the July 31 event (Table 20).

Table 20. Flex Peak Program demand response event details

Event Details	Monday, July 16	Wednesday, July 25	Tuesday, July 31
Event time	4–8 p.m.	4–8 p.m.	4–8 p.m.
Average temperature	93°F	98°F	96°F
Maximum load reduction (MW)	27	22	33

Marketing Activities

The Flex Peak Program continued to be included along with the C&I Energy Efficiency Program collateral. Additional details can be found in the Commercial/Industrial Sector Overview.

Customer representatives conducted field visits with 2017 participants in the offseason and early spring to ensure re-enrollment was successful; verify load size, load traits, and type of operation; and to communicate available incentive amounts based on customer load size.

Cost-Effectiveness

Idaho Power determines cost-effectiveness for its demand response program under the terms of IPUC Order No. 32923 and OPUC Order No. 13-482. Under the terms of the orders and the settlement, all of Idaho Power's demand response programs were cost-effective for 2017.

The Flex Peak Program was dispatched for 12 event hours and achieved a maximum reduction of 29.1 MW. The total cost of the program in 2018 was $433,313. Had the Flex Peak Program been used for the full 60 hours, the cost would have been approximately $703,000.

A complete description of Idaho Power cost-effectiveness of its demand response programs is included in *Supplement 1: Cost-Effectiveness.*

Evaluations

As required each year by IPUC and OPUC, Idaho Power conducted an internal evaluation of the program's potential load reduction impacts. The goal of the review was to calculate the load reduction in MW for the program. The analysis also verified load reduction per site and per event. A copy of the results of this study is in *Supplement 2: Evaluation.*

2019 Program and Marketing Strategies

The company will continue to communicate the value proposition with enrolled customers and the importance of active participation when events are called. Idaho Power will meet with existing participants during the off-season to discuss past-season performance and upcoming season details.

For the upcoming season, Idaho Power will update the program brochure to match the look and feel of other C&I Energy Efficiency Program materials. Though the terms of IPUC Order No. 32923 and OPUC Order No. 13-482 do not require program marketing, Idaho Power customer representatives regularly communicate with current participants and encourage them to enroll new sites. Idaho Power will promote the program along with Idaho Power's C&I Energy Efficiency Program, when applicable.

Oregon Commercial Audits

	2018	2017
Participation and Savings		
Participants (audits)	0	13
Energy Savings (kWh)	n/a	n/a
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	$0	$0
Oregon Energy Efficiency Rider	$1,473	$8,102
Idaho Power Funds	$0	$0
Total Program Costs—All Sources	$1,473	$8,102
Program Levelized Costs		
Utility Levelized Cost ($/kWh)	n/a	n/a
Total Resource Levelized Cost ($/kWh)	n/a	n/a
Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	n/a	n/a
Total Resource Benefit/Cost Ratio	n/a	n/a

Description

Oregon Commercial Audits identifies opportunities for all commercial and industrial building owners, governmental agencies, schools, and small businesses to achieve energy savings. Initiated in 1983, this statutory required program (ORS 469.865) is offered under Oregon Tariff Schedule No. 82.

Through this program, Idaho Power provides free energy audits, evaluations, and educational products to customers through a third-party contractor. During the audits, the contractor inspects the building shell, HVAC equipment, lighting systems, and operating schedules, if available, and reviews past billing data. These visits provide a venue for contractor to discuss available incentives and specific business operating practices for energy savings. The contractor may also distribute energy efficiency program information and remind customers that Idaho Power personnel can offer additional energy-savings tips and information. Business owners can decide to change operating practices or make capital improvements designed to use energy wisely.

Program Activities

During 2018, no customers requested audits through this program. As in 2017, EnerTech Services was available to conduct the audits, and Idaho Power personnel were available to assist customers.

The 2018 program costs were lower than 2017 because the contractor did not perform any audits.

Marketing Activities

Idaho Power sent its annual direct-mailing to 1,520 Oregon commercial customers in September to explain the program’s no-cost or low-cost energy audits and the available incentives and resources.

Cost-Effectiveness

As previously stated, the Oregon Commercial Audits program is a statutory program offered under Oregon Schedule 82, the Commercial Energy Conservation Services Program. Because the required parameters of the Oregon Commercial Audit program are specified in Oregon Schedule 82 and the company abides by these specifications, this program is deemed to be cost-effective. Idaho Power claims no energy savings from this program.

2019 Program and Marketing Strategies

Idaho Power does not expect to make any operational changes to the program in 2019.

Idaho Power will continue to market the program through the annual customer notification and will consider additional opportunities to promote the program to eligible customers.

Irrigation Sector Overview

The irrigation sector is comprised of agricultural customers operating water-pumping or water-delivery systems to irrigate agricultural crops or pasturage. End-use electrical equipment primarily consists of agricultural irrigation pumps and center pivots. The irrigation sector does not include water pumping for non-agricultural purposes, such as the irrigation of lawns, parks, cemeteries, golf courses, or domestic water supply.

In December 2018, the active and inactive irrigation service locations totaled 20,077 system-wide. This was an increase of 1.5 percent compared to 2017, primarily due to the addition of service locations for pumps and pivots to convert land previously furrow or surface irrigated to sprinkler irrigation. Irrigation customers accounted for 1,976,587 MWh of energy usage in 2018, which was an increase from 2017 of approximately 12 percent, primarily due to variations in weather. This sector represented nearly 14 percent of Idaho Power's total electricity sales, and approximately 29 percent of July sales. Energy usage for this sector has not changed significantly in many years; however, there is substantial yearly variation in usage due primarily to the impact of weather on customer irrigation needs.

Idaho Power offers two programs to the irrigation sector:

1. Irrigation Efficiency Rewards, an energy efficiency program designed to encourage the replacement or improvement of inefficient systems and components.
2. Irrigation Peak Rewards, a demand response program designed to provide a system peak resource.

The Irrigation Efficiency Rewards program, including the Green Motor Initiative, experienced increased annual savings, from 16,888 MWh in 2017 to 19,002 MWh in 2018.

Idaho Power recruited the majority of 2017 Irrigation Peak Rewards participants in 2018, with an increase of 1.7 percent in eligible service points.

Table 21 summarizes the overall expenses and program performance for both the energy efficiency and demand response programs provided to irrigation customers.

Table 21. Irrigation sector program summary, 2018

		Total Cost		Savings	
Program	**Participants**	**Utility**	**Resource**	**Annual Energy (kWh)**	**Peak Demand (MW)**
Demand Response					
Irrigation Peak Rewards	2,335 service points	$ 6,891,737	$ 6,891,737		297
Total		**$ 6,891,737**	**$ 6,891,737**		**297**
Energy Efficiency					
Irrigation Efficiency Rewards	1,022 projects	$ 2,953,706	$11,948,469	18,933,831	
Green Motors—Irrigation	26 motor rewinds			67,676	
Total		**$ 2,953,706**	**$11,948,469**	**19,001,507**	

Note: See Appendix 3 for notes on methodology and column definitions.

Marketing

In 2018, the company mailed a spring and fall edition of *Irrigation News* to all irrigation customers in its service area. The spring edition focused on Idaho Power's efforts to improve irrigation customer satisfaction, rate changes, rewards for custom projects, and contact information for regional agriculture representatives. Two versions of the spring newsletter were created to cater to the differences in rate changes for Oregon and Idaho customers. The fall edition again noted customer satisfaction efforts and featured information on online tools for account management and outages, a 2019 calendar of events for agriculture shows, energy efficiency incentives, and Idaho Power's overhead power line safety video specifically made for the irrigation community. This newsletter provides an opportunity to increase transparency and trust and to promote the Irrigation Efficiency Rewards program.

Throughout 2018, changes to program brochures, project applications, and other marketing collateral made the materials more consistent with each other and other Idaho Power publications.

The company also placed numerous ads in print agricultural publications to reach the target market in smaller farming communities. Publications included: *Capital Press*, *Gem State Producer*, *Times–News*, *Owyhee Avalanche*, *Idaho Press*, *Power County Press*, *Potato Grower Magazine*, *Idaho Cattle Association Guide*, *Malheur Enterprise*, and *Post Register*. Idaho Power utilized radio advertising to promote its presence at the Agri-Action show and to show support of Future Farmers of America and Ag Week conferences.

In spring 2018, Idaho Power partnered once again with the Twin Falls County Pest Abatement District to promote irrigation equipment efficiency while educating the public on mosquito abatement—preventing large pools of water where mosquitoes breed. The promotion ran as a commercial on KMVT and through digital ads in the Twin Falls area March through April. Digital advertising was used to drive traffic to the Irrigation Efficiency web page; the click-through rate was 0.14 percent—well above the industry average of 0.08 percent.

Customer Satisfaction

Idaho Power conducts the Burke Customer Relationship Survey each year. In 2018, 61 percent of irrigation survey respondents indicated Idaho Power is meeting or exceeding their needs with information on how to use energy wisely and efficiently.

Seventy percent of irrigation respondents indicated Idaho Power is meeting or exceeding their needs by encouraging energy efficiency with its customers. Fifty-six percent of Idaho Power irrigation customers surveyed in 2018 indicated the company is meeting or exceeding their needs in offering energy efficiency programs, and 37 percent of the irrigation survey respondents indicated they have participated in at least one Idaho Power energy efficiency program. Of the irrigation survey respondents who have participated in at least one Idaho Power energy efficiency program, 91 percent are "very" or "somewhat" satisfied with the program.

Training and Education

Idaho Power continued to market its irrigation programs by varying the location of workshops and offering new presentations to irrigation customers. In 2018, Idaho Power provided eight workshops promoting the Irrigation Efficiency Rewards program. Approximately 200 customers attended

workshops in Vale, Oregon and Aberdeen, Mountain Home, Nampa, Eagle, Burley, Leadore, and Emmett, Idaho. The company displayed exhibits at regional agricultural trade shows, including the Idaho Irrigation Equipment Association Winter Show, Eastern Idaho Agriculture Expo, Western Idaho Agriculture Expo, the Agri-Action Ag show, and the Treasure Valley Irrigation Conference.

Field Staff Activities

Idaho Power's agricultural representatives offer customer education, training, and irrigation-system assessments and audits across the service area. Agricultural representatives also engage agricultural irrigation equipment dealers in training sessions with the goal of sharing expertise about energy-efficient system designs and increasing awareness about the program. Agricultural representatives and the irrigation segment coordinator, a licensed agricultural engineer, participate in annual training to maintain or obtain their Certified Irrigation Designer and Certified Agricultural Irrigation Specialist accreditation. This training allows Idaho Power to maintain its high level of expertise in the irrigation industry and is sponsored by the nationally based Irrigation Association.

Irrigation Efficiency Rewards

	2018	2017
Participation and Savings		
Participants (projects)	1,048	801
Energy Savings (kWh)*	19,001,507	16,888,049
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	$2,681,664	$2,230,798
Oregon Energy Efficiency Rider	$233,916	$192,416
Idaho Power Funds	$38,126	$52,463
Total Program Costs—All Sources	$2,953,706	$2,475,677
Program Levelized Costs		
Utility Levelized Cost ($/kWh)	$0.019	$0.018
Total Resource Levelized Cost ($/kWh)	$0.075	$0.060
Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	4.57	4.75
Total Resource Benefit/Cost Ratio	3.03	3.64

*2018 total includes 67,676 kWh of energy savings from 26 Green Motors projects

Description

Initiated in 2003, the Irrigation Efficiency Rewards program encourages energy-efficient equipment use and design in irrigation systems. Qualified irrigators in Idaho Power's service areas can receive financial incentives and reduce their electricity usage through participation in the program. Two options help meet the needs for major or minor changes to new or existing systems: Custom Incentive and Menu Incentive.

Custom Incentive Option

The Custom Incentive Option is offered for extensive retrofits to existing systems or the installation of an efficient, new irrigation system.

For a new system, Idaho Power determines whether the equipment is more energy efficient than standard before approving the incentive. If an existing irrigation system is changed to a new water source, this program considers it a new irrigation system. The incentive for a new system is 25 cents per annual kWh saved, not to exceed 10 percent of the project cost.

For existing system upgrades, the incentive is 25 cents per annual kWh saved or $450 per kW demand reduction, whichever is greater. The incentive is limited to 75 percent of the total project cost.

The qualifying energy efficiency measures include any hardware changes that result in a reduction of the potential kWh use of an irrigation system or that result in a potential demand reduction. Idaho Power reviews, analyzes, and makes recommendations on each project after considering prior usage history, invoices, and, in most situations, post-installation demand data to verify savings and incentives.

Menu Incentive Option

The Menu Incentive Option covers a portion of the costs of repairing and replacing specific components that help the irrigation system use less energy. This option is designed for systems where small maintenance upgrades provide energy savings from these 11 separate measures:

- New flow-control type nozzles
- New nozzles for impact, rotating, or fixed-head sprinklers
- New or rebuilt impact or rotating type sprinklers
- New or rebuilt wheel-line levelers
- New complete low-pressure pivot package
- New drains for pivots or wheel-lines
- New riser caps and gaskets for hand-lines, wheel-lines, and portable mainlines
- New wheel-line hubs
- New pivot gooseneck and drop tube
- Leaky pipe repair
- New center pivot base boot gasket

Payments are calculated on a predetermined kWh savings per component.

Program Activities

In 2018, 1,022 irrigation efficiency projects were completed as follows: 843 utilized the Menu Incentive Option and provided an estimated 12,170 MWh of energy savings and 23.8 MW of demand reduction; 179 utilized the Custom Incentive Option (82 were new systems and 97 were on existing systems) and provided 6,987 MWh of energy savings.

Marketing Activities

In addition to training and education activities mentioned in the Irrigation Sector Overview, Idaho Power targeted a select number of nonparticipants to increase program awareness. Idaho Power maintained a database of irrigation dealers and vendors for direct-mail communication, as they are key to the successful marketing of the program.

Cost-Effectiveness

Idaho Power calculates cost-effectiveness using different savings and benefits assumptions and measurements under the Custom Incentive Option and the Menu Incentive Option of Irrigation Efficiency Rewards.

Each application under the Custom Incentive Option received by Idaho Power undergoes an assessment to estimate the energy savings that will be achieved through a customer's participation in the program. On existing system upgrades, Idaho Power calculates the savings of a project by determining what changes are made and comparing it to the service point's previous five years of electricity usage history on a case-by-case basis. On new system installations, the company uses standard practices as the

baseline and determines the efficiency of the applicant's proposed project. Based on the specific equipment to be installed, the company calculates the estimated post-installation energy consumption of the system. The company verifies the completion of the system design through aerial photographs, maps, and field visits to ensure the irrigation system is installed and used in the manner the applicant's documentation describes.

Each application under the Menu Incentive Option received by Idaho Power also undergoes an assessment to ensure deemed savings are appropriate and reasonable. Payments are calculated on a prescribed basis by measure. In some cases, the energy-savings estimates in the Menu Incentive Option are adjusted downward from deemed RTF savings to better reflect known information on how the components are actually being used. For example, a half-circle rotation center pivot will only save half as much energy per sprinkler head as a full-circle rotation center pivot. All deemed savings are based on seasonal operating hour assumptions by region. If a system's usage history indicates it has lower operating hours than the assumptions, like the example above, the deemed savings are adjusted.

In March 2018, the RTF updated the irrigation hardware measure analysis, which resulted in a reduction of savings between 34 to 94 percent from the previous workbook. The major assumption driving the measure savings change in the program involves the calculation of the leakage per hardware item, which caused savings to decrease nearly 80 percent on average for several irrigation hardware types. Idaho Power has requested the RTF reconvene the irrigation subcommittee in 2019 and re-examine the assumptions such as leakage and flow rate, as well as the calculation methodology behind these irrigation measure. In the meantime, the company plans to use the current workbook for 2019. However, if the RTF approves a new workbook in 2019, Idaho Power will reevaluate and may retroactively apply those updated savings for 2019.

Complete measure-level details for cost-effectiveness can be found in *Supplement 1: Cost-Effectiveness*.

2019 Program and Marketing Strategies

Idaho Power does not expect to make any changes to the Custom Incentive Option in 2019. However, the company will be adjusting Menu Option savings due to new savings numbers being created by the RTF. Idaho Power will also initiate work with the RTF and regional irrigation experts to review the RTF savings adjustments to determine if additional research or information is needed to improve accuracy of savings calculations.

Marketing plans include conducting at least six customer-based irrigation workshops to promote energy efficiency technical education as well as program specifics. Idaho Power will continue to participate in three regional agricultural trade shows, in addition to sponsoring the Idaho Irrigation Equipment Association Show & Conference and the Soil Health Symposium. Marketing the program to irrigation vendors will continue to be a priority. Idaho Power will continue to promote the program in agriculturally focused editions of newspapers and magazines, and to provide valuable information in its *Irrigation News* newsletter.

Irrigation Peak Rewards

	2018	2017
Participation and Savings		
Participants (participants)	2,335	2,307
Energy Savings (kWh)	n/a	n/a
Demand Reduction (MW)	297	318
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	$230,953	$743,948
Oregon Energy Efficiency Rider	$180,865	$205,528
Idaho Power Funds	$6,479,919	$6,273,625
Total Program Costs—All Sources	$6,891,737	$7,223,101
Program Levelized Costs		
Utility Levelized Cost ($/kWh)	n/a	n/a
Total Resource Levelized Cost ($/kWh)	n/a	n/a
Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	n/a	n/a
Total Resource Benefit/Cost Ratio	n/a	n/a

Description

Idaho Power's Irrigation Peak Rewards program is a voluntary, demand response program available to agricultural irrigation customers with metered service locations who have participated in the past. Initiated in 2004, the purpose of the program is to minimize or delay the need to build new supply-side resources.

The program pays irrigation customers a financial incentive to interrupt the operation of specific irrigation pumps using of one or more control devices. Historically, the Irrigation Peak Rewards program provides approximately 320 MW, or nearly 9 percent of Idaho Power's all-time system peak of load reduction.

The program offers two interruption options: Automatic Dispatch Option and Manual Dispatch Option. Automatic Dispatch Option pumps are controlled by an Advanced Metering Infrastructure (AMI) or a cellular device that remotely turns off the pump(s). Manual Dispatch Option pumps can participate if they have 1,000 cumulative horsepower (hp) or the AMI or cellular technology has been determined to not function properly. These customers nominate a kW reduction and are compensated based on the actual load reduction during the event.

For either interruption option, these are the program event guidelines:

- June 15 to August 15 (excluding Sundays and July 4)
- Up to four hours per day between 1:00 p.m. and 9:00 p.m.
- Up to 15 hours per week

- No more than 60 hours per season
- At least three events per season

The incentive structure consists of fixed and variable payments. The fixed incentive is $5.00/kW with an energy credit of $0.0076/kWh. The demand (kW) credit is calculated by multiplying the monthly billing kW by the demand-related incentive amount. The energy (kWh) credit is calculated by multiplying the monthly billing kWh usage by the energy-related incentive amount. The incentive is applied to monthly bills, and credits are prorated for periods when reading/billing cycles do not align with the program season dates. An additional variable credit of $0.148/kWh applies to the fourth and subsequent events that occur between 1:00 p.m. and 8:00 p.m. and is increased to $0.198/kWh when customers allow Idaho Power to interrupt their pumps until 9:00 p.m.

Program rules allow customers the ability to opt out of dispatch events up to five times per service point. The first three opt outs each incur a penalty of $5 per kW, while the remaining two incur a penalty of $1 per kW based on the current month's billing kW. The opt-out penalties may be prorated to correspond with the dates of program operation and are accomplished through manual bill adjustments. The penalties will never exceed the amount of the incentive that would have been paid with full participation.

Program Activities

Idaho Power enrolled 2,335 service points in 2018, an increase of 1.7 percent over 2017. The enrolled service points accounted for 85.2 percent of the eligible service points. The total nominated kW increased to 416.8 MW from 411.2 MW in 2017.The company utilized two electrical contractors during the spring of 2018 to maintain and troubleshoot the AMI devices and cellular devices for dispatching. Identification and correction of device failures is an ongoing effort before the season begins and throughout the season.

Table 22. Irrigation Peak Rewards demand response event details

Event Details	Friday, July 13	Tuesday, July 17	Wednesday, August 1
Event time	2–9 p.m.	2–9 p.m.	2–9 p.m.
Average temperature	95°F	94°F	98°F
Maximum load reduction (MW)	296.7	256.6	263.8

The program administration expenses were less in 2018 because the company completed the upgrade of load control communication devices located on participating customers' pump electrical panels in 2017. Third-party load control devices were exchanged from cellular communication to Idaho Power's AMI communication. Third-party device management discontinued in December 2016. The lower 2018 expenses reflect the program in a maintenance mode with the devices being managed internally.

Marketing Activities

Idaho Power used workshops, trade shows, and direct-mailings to encourage past participants to re-enroll in the program. The company updated a program brochure to improve readability and answer common questions. The brochure, sign-up worksheet, and contract agreement were mailed to all eligible

participants in March 2018. See the Irrigation Sector Overview section for additional marketing activities.

Cost-Effectiveness

Idaho Power determines cost-effectiveness for the demand response programs under the terms of IPUC Order No. 32923 and OPUC Order No. 13-482. Under the terms of the orders and the settlement, all of Idaho Power's demand response programs were cost-effective for 2018.

The Irrigation Peak Rewards program was dispatched for 12 event hours and achieved a maximum demand reduction of 296.7 MW. The total expense for 2018 was $6.9 million and would have been approximately $9.8 million if the program was operated for the full 60 hours.

A complete description of cost-effectiveness results for Idaho Power's demand response programs is included in *Supplement 1: Cost-Effectiveness.*

Evaluations

Each year, Idaho Power produces an internal report of the Irrigation Peak Rewards program. This report includes a load-reduction analysis, cost-effectiveness information, and program changes. A breakdown of the load reduction for each event day and each event hour including line losses is shown in Table 23. A copy of the 2018 Irrigation Peak Rewards program report is included in *Supplement 2: Evaluation*.

Table 23. Irrigation Peak Rewards program MW load reduction for events

Event Date	2:00–3:00 p.m.	3:00–4:00 p.m.	4:00–5:00 p.m.	5:00–6:00 p.m.	6:00–7:00 p.m.	7:00–8:00 p.m.	8:00–9:00 p.m.
July 13	75.9	149.3	231.8	296.7	218.0	139.3	58.3
July 17	71.3	125.9	206.8	256.6	180.9	121.5	43.6
August 1	54.3	117.3	206.8	263.8	208.5	142.7	54.6

2019 Program and Marketing Strategies

Idaho Power will continue to recruit past participants in this program for the 2019 irrigation season; no program changes are expected. The company will include information on the program at its irrigation workshops in conjunction with the Irrigation Efficiency Program. Each eligible customer will be sent a comprehensive packet containing an informational brochure, sign-up worksheet, and contract agreement encouraging their participation. Idaho Power agricultural representatives will continue one-on-one customer contact to inform and encourage program participation.

Other Programs and Activities

Green Motors Initiative

Idaho Power participates in the Green Motors Practices Group's (GMPG) Green Motors Initiative (GMI). Under the GMI, service center personnel are trained and certified to repair and rewind motors in an effort to improve reliability and efficiency. If a rewind returns a motor to its original efficiency, the process is called a "Green Rewind." By rewinding a motor under this initiative, customers may save up to 40 percent when compared to buying a new motor. The GMI is available to Idaho Power's agricultural, commercial, and industrial customers.

Twenty-four service centers in Idaho have the training and equipment to participate in the GMI and perform an estimated 1,200 Green Rewinds annually. Of the 24 service centers, currently nine have signed on as GMPG members in Idaho Power's service area. The GMPG will work to expand the number of service centers participating in the GMI, leading to market transformation and an expected kWh savings in southern Idaho and eastern Oregon.

Under the initiative, Idaho Power pays service centers $2 per hp for each National Electrical Manufacturers Association (NEMA)-rated motor up to 5,000 hp that received a verified Green Rewind. Half of that incentive is passed on to customers as a credit on their rewind invoice. The GMPG requires all member service centers to sign and adhere to the GMPG Annual Member Commitment Quality Assurance agreement. The GMPG is responsible for verifying quality assurance.

In 2018, a total of 51 motors were rewound under the GMI. Table 24 provides a breakdown of energy savings and the number of motors by customer segment.

Table 24. Green Motor Initiative savings, by sector and state

Sector	State	Number of Motors	Sum of kWh Savings
Irrigation	ID	26	67,676
	OR	0	0
Irrigation Total		**26**	**67,676**
Commercial and Industrial	ID	25	64,167
	OR	0	0
Commercial and Industrial Total		**25**	**64,167**
Grand Total		**51**	**131,843**

Local Energy Efficiency Funds

The purpose of Local Energy Efficiency Funds (LEEF) is to provide modest funding for short-term projects that do not fit within Idaho Power's energy efficiency programs but provide a direct benefit to the promotion or adoption of beneficial energy efficiency behaviors or activities. Idaho Power received four LEEF applications in 2018: two from residential customers and two from commercial customers. None were funded.

The residential applications were reviewed and deemed not appropriate for LEEF because the products referenced in the submittal were found to be standard and widely available. For example, one applicant was seeking funds to replace an older door and windows. An Idaho Power residential program specialist

and/or a customer representative followed up with the applicants to discuss other available incentives and to address other needs.

The two commercial customers requested assistance with LED lighting retrofits. In these cases, a program specialist directed applicants to program incentive information currently available from Idaho Power to support their projects.

Idaho Power's Internal Energy Efficiency Commitment

Idaho Power continues to upgrade the company's substation buildings across its service area. The existing grass and low-level evergreen shrub landscaping at the Fremont substation in Pocatello was removed and replaced with gravel. The irrigation system was greatly reduced to promote water conservation and reduced O&M expenses related to watering, mowing, and disposal of landscaping debris. This xeriscape approach will be considered for other substations. Efforts in 2018 also focused on providing energy-efficient heating and cooling. In 2018, Idaho Power replaced the make-up air handlers in the corporate headquarters (CHQ). The inefficient single-fan/single-speed units were replaced with state-of-the-art FANWALL® technology. Each unit consists of 12 VFD fans and will reduce energy consumption at the CHQ building while delivering a more consistent air flow for employees.

Renovation projects continued at the CHQ in downtown Boise, with a project to exchange the old T-12 parabolic lighting fixtures with LED lighting throughout 2019. Remodels continued to incorporate energy efficiency measures, such as lower partitions, other lighting retrofits, and automated lighting controls.

In Blackfoot, Pocatello, Twin Falls, and many other areas within Idaho Power's service area, the company continued to replace existing high bay lighting in truck bays and shops with more efficient LED lighting and to install smart thermostats throughout the enterprise.

In 2018, the design was completed for the new HVAC system at the Maintenance and Electrical Shops; construction on these projects is scheduled for 2019. These improvements to the shops will reduce energy consumption in coming years.

The Idaho Power CHQ building participated in the Flex Peak Program again in 2018 and committed to reduce up to 200 kW of electrical demand during events. Unlike other program participants, Idaho Power does not receive any financial incentives for its participation. Idaho Power's CHQ participated in all three demand response events in 2018. Idaho Power's other internal energy efficiency projects and initiatives are funded by non-rider funds.

Idaho Power continued a major sustainability initiative to educate employees about the purchase and use of electric vehicles (EV). A 2018 Chevy Bolt, with a range of 238 miles per charge, was purchased for use as a CHQ employee fleet car. Additionally, the company purchased and upfitted eight Ford F-150s with XLP™ Plug-in Hybrid systems designed to improve gas mileage and decrease emissions before placing them in service. These hybrid trucks are the first step in a transition to an all-electric truck fleet in the future. EV charging stations were installed to charge these vehicles.

Figure 41. Vehicles wrapped with graphics to promote Idaho Power's use of EVs

Market Transformation: NEEA

Market transformation is an effort to permanently change the existing market for energy efficiency goods and services by engaging and influencing large national companies to manufacture or supply more energy-efficient equipment. Through market transformation activities, participants promote the adoption of energy-efficient materials and practices before they are integrated into building codes. Idaho Power achieves market transformation savings primarily through its participation in the NEEA.

Idaho Power has funded NEEA since its inception in 1997. NEEA's role is to look to the future to find emerging opportunities for energy efficiency and to create a path forward to make those opportunities a reality in the region.

NEEA's current, five-year funding cycle began 2015. In this cycle, the NEEA business plan is forecast to obtain 145 average megawatts (aMW) of regional energy savings at a cost of about $13.5 million or approximately $2.7 million per year for Idaho Power customers. The NEEA plan also offered some optional programs and activities to prevent overlapping activities when local utilities have the capability to provide the same services at a lower cost or more effectively.

In 2018, NEEA and its funders began planning the next five-year cycle which will be from 2020–2024. The estimated cost for Idaho Power's customers in this funding cycle is $14.7 million, or $3 million per year.

Idaho Power participates in all of NEEA's committees and workgroups, including representation on the Regional Portfolio Advisory Committee and the Board of Directors. Idaho Power representatives participate in the Regional Portfolio Advisory Committee, Cost-Effectiveness and Evaluation Advisory Committee, Residential Advisory Committee, Commercial Advisory Committee, Regional Emerging Technologies Advisory Committee, Idaho Energy Code Collaborative, Ductless Heat Pump Workgroup, Heat Pump Water Heater Workgroup, and the Northwest Regional Strategic Market Plan for Consumer Products Group. The company also participates in NEEA's initiatives including the Residential Building Stock Assessment, Commercial Building Stock Assessment, Commercial Code Enhancement (CCE), Strategic Energy Management, Commercial Lighting - Reduced Wattage Lamp Replacement, Top-Tier Trade Ally and Luminaire Level Lighting Controls

NEEA performs several market progress evaluation reports (MPER) on various energy efficiency efforts each year. In addition to the MPERs, NEEA provides market-research reports, through third-party

contractors, for energy efficiency initiatives throughout the Pacific Northwest. Copies of these and other reports mentioned below are referenced in *Supplement 2: Evaluation* and on NEEA's website under Resources & Reports. For information about all committee and workgroup activities, see the information below.

NEEA Marketing

As stated in Idaho Power's agreement with NEEA for the 2015 to 2019 funding cycle: "Idaho Power will fund, create, and deliver specific market transformation activities for all initiatives that are relevant for the Idaho Power service area." In 2018, these activities included educating residential customers on HPWH and ductless heat pumps, and educating commercial customers and participating contractors on reduced-wattage lightbulb replacement, NXT Level Lighting Training, and LLLC.

Idaho Power promoted ductless heat pumps and HPWH as part of its H&CE Program. The company also promoted DHPs as part of its residential marketing campaign. Full details can be found in the H&CE Program's Marketing section.

Idaho Power continued to encourage trade allies to take the NXT Level Lighting Training. The company also handed out flyers at seven trade ally lighting workshops in July and August.

To promote LLLC, Idaho Power held training classes in February in Boise and March in Pocatello. The company also rolled out a networked lighting control incentive in August.

NEEA Activities: All Sectors

Cost-Effectiveness and Evaluation Advisory Committee

The advisory group meets three to four times a year to review evaluation reports, cost-effectiveness, and savings assumptions. One of the primary functions of the work group is to review all savings assumptions that have been updated since the previous reporting cycle. The process usually requires a webinar and an all-day meeting. Other activities for 2018 included reviewing NEEA evaluation studies and data-collection strategies and previewing forthcoming research and evaluations.

Idaho Energy Code Collaborative

Since 2005, the State of Idaho has been adopting a state-specific version of the IECC. The Idaho Energy Code Collaborative is a group of individuals with varying backgrounds and levels of association with the building construction industry. The group's work is facilitated by NEEA. The purpose of the group is to make recommendations to the Idaho Building Code Board (IBCB) on the adoption of certain construction and energy codes in the residential and commercial sectors. Idaho Power is a member of this group and participates in the group's meetings.

The IBCB adopted the 2017 Idaho Energy Conservation Code (2015 IECC commercial provisions and 2012 IECC residential provisions with Idaho amendments) effective January 1, 2018.

In September 2018, commercial and residential construction and energy codes were published by the International Code Council (ICC). The publications include the *2018 International Building Code*, *2018 International Existing Building Code*, *2018 International Residential Code*, *2018 International Energy Conservation Code* (residential), and the *2018 International Energy Conservation Code* (commercial). The Idaho Energy Code Collaborative reviewed these publications in detail, comparing them to the prior

codes published in 2015. The results of the comparison were provided to the IBCB as the they began formally reviewing these publications in November for potential adoption.

Idaho Power participated and offered support in those collaborative meetings, which were attended by members of the building industry, local building officials, code development officials, and other interested stakeholders. Idaho Power also attended the IBCB public meetings. The Idaho Energy Code Collaborative is an effort in which Idaho Power will continue to participate.

Regional Emerging Technologies Advisory Committee

Idaho Power participated in Regional Emerging Technologies Advisory Committee (RETAC) which met quarterly to review the emerging technology pipeline for BPA, NEEA, and the Northwest Power and Conservation Council (NWPCC) Seventh Power Plan. Throughout 2018, RETAC focused on technologies for residential HVAC, commercial HVAC, and water heating. RETAC discussed the gaps and issues that exist for these technologies and how NEEA and the regional utilities can address those issues. This discussion will continue in 2019.

Regional Portfolio Advisory Committee

The Regional Portfolio Advisory Committee (RPAC) is responsible for overseeing NEEA's market transformation programs and their advancement through key milestones in the "Initiative Lifecycle." RPAC members must reach a full-consent vote at selected milestones in order for a program to advance to the next stage; members can exercise a "challenge flag" at any stage if a program goes beyond the scope agreed upon by the committee.

RPAC convenes in-person for quarterly meetings and by webinar as needed. In 2018, the RPAC conducted three quarterly meetings and five marketing-related meetings with a group that was labeled RPAC+, which included regular RPAC members and marketing representatives from each organization.

In the first regular quarterly meeting of RPAC on February 28, the group voted to support advancing Industrial Motor Product Labeling/Extended Motor Products (XMP) through the Initiative Star Milestone and into NEEA's program portfolio. NEEA staff conducted a NEEA portfolio review and an emerging technologies update.

On May 14, RPAC met at the Seattle-Tacoma Airport. The RPAC was shown the 2018 RPAC Workplan and voted to move Very High Efficiency Dedicated Outside Air Systems (VHE DOAS) through the Initiative Start milestone and into NEEA's program portfolio. NEEA staff updated the group and a discussion was held concerning NEEA's 2020 to 2024 Business Planning Workshop, which addressed a complementary approach for initiatives and the right-sizing advisory committees. RPAC also reviewed the Commercial/Industrial lighting regional strategic market plan.

On August 22, RPAC began an in-depth investigation into how NEEA promotes market transformation with the goal of providing guidance to the board. The group also discussed streamlining the Initiative Life Cycle Process and decreasing the number of committees and workgroups. NEEA staff presented updates on emerging technologies and market research and evaluation.

After one funder threw the challenge flag and a subsequent board directive, RPAC+ held marketing workshops on September 26 and October 3, 11, 18, and 23 to resolve issues relating to NEEA's downstream marketing activities.

Idaho Power staff participated in RPAC+ workshops that were organized to propose guiding principles on how NEEA will conduct downstream marketing activities in Cycle 6, which runs from 2020 through 2024. Downstream marketing activities were defined as region-wide marketing activities to promote energy-efficient products, services, and practices directly to end-users including digital ads, purchased social, billboards and print, broadcast (radio/tv), point of purchase, and direct-mail where NEEA would historically use a market-facing sub-brand of a NEEA initiative.

These activities require additional coordination between NEEA and Idaho Power to limit customer confusion. Idaho Power staff spent significant time attending these weekly webinars and reviewing proposals to advocate for a process and outcome that would best serve Idaho Power customers. Ultimately, RPAC+ members agreed on the proposed downstream marketing methods except how a utility would be reimbursed if it opted out of a marketing campaign. This issue was sent back to the Board of Directors.

Throughout 2018, RPAC received updates on NEEA board discussions concerning the Strategic/ Business/Planning process for the 2020 to 2024 funding cycle and incorporating funders from natural gas utilities into NEEA.

NEEA Activities: Residential

Ductless Heat Pump Workgroup

Idaho Power continued participating in NEEA's Ductless Heat Pump Workgroup. Its members are primarily employees of electric utilities in the Northwest. The workgroup was formed several years ago to help support NEEA's regional market transformation activities around ductless heat pumps. In 2018, NEEA began creating a vetting process that will provide Northwest stakeholders an opportunity to communicate their opinions as to the readiness of the DHP initiative to transition to the last phase of the Initiative Lifecycle, called Long Term Monitoring and Tracking (LTMT).

The vetting process will extend into Q3 2019, and the Ductless Heat Pump Workgroup will provide assistance to the NEEA program manager during this time. To help inform stakeholders, the 8th MPER was initiated in December 2018 and will be published in Q3 2019. Other available information includes the 2019 DHP Operations Plan released in September and the DHP Initiative Lifecycle released in July. A stakeholder workshop is also planned for early 2019.

Heat Pump Water Heater Workgroup

Idaho Power continued participating in NEEA's Heat Pump Water Heater Workgroup. Its members are primarily employees of electric utilities in the Northwest. The workgroup was formed several years ago to help support NEEA's regional market transformation activities around HPWHs. The work in 2018 remained focused on activities to accelerate market transformation. The workgroup continued to assist the Northwest Regional Strategic Market Plan for Consumer Products group, which was also focused on HPWHs.

Northwest Regional Strategic Market Plan for Consumer Products Group

Idaho Power has been a member of the Northwest Regional Strategic Market Plan for Consumer Products group since its inception in 2016. Idaho Power continued its membership in 2018 and participated as member of its steering committee. The members are primarily employees of electric utilities in the Northwest. The group was formed based on NEEA's determination that a strong focus

needed to be placed on the performance of certain consumer products to obtain their maximum contributions to Northwest energy efficiency.

In late 2017, the focus expanded from HPWH to include smart thermostats. In 2018, the steering committee assembled a Smart Thermostat Savings Task Force, asking them to create a research proposal. The RTF requested research to help the them decide if smart thermostats can be advanced to a deemed measure from their current planning measure status. The contract analyst presented the research proposal in September, which the RTF approved. The research would be performed in 2019 and 2020. In late 2018, the steering committee discussed the needed funding and how a regional request could be accomplished.

Residential Advisory Committee

Idaho Power participates in the Residential Advisory Committee (RAC), the Manufactured Homes Interest Group, the Retail Products Portfolio (RPP) Initiative, Efficient Homes Workgroup, the Super-Efficient Dryers Workgroup, and Northwest Regional Retail Collaborative. During 2016, NEEA combined the Efficient Homes Workgroup and the Manufactured Homes Interest Group and renamed it the BetterBuiltNW Workgroup.

Idaho Power participated in RAC, which met quarterly in 2018, with the exception of the Q4 meeting which was cancelled by NEEA due to lack of agenda items. The purpose of the RAC is to advise NEEA with broad-based advice, experience, and feedback in all residential program matters. This committee provides utilities with the opportunity to give meaningful input into the design and implementation of NEEA programs.

NEEA provides BetterBuiltNW builder and contractor training, manages the regional-homes database, develops regional marketing campaigns, and coordinates energy-efficient new construction activities with utilities in Idaho, Montana, Oregon, and Washington. In 2018, NEEA continued to assist utilities in launching custom single-family Residential Performance Path programs that offer utilities flexibility in program design and the opportunity to capture all above-code savings on residential new construction projects. NEEA will continue to manage the AXIS regional database. NEEA continued to work on an above-code manufactured homes specification, known as NEEM 2.0. This specification will eventually replace the current NEEM 1.1 specification.

The Super-Efficient Dryers Initiative was formed to support the acceleration of heat pump dryers into the market. The initiative focuses on influencing manufacturer product development and executing strategies to overcome the barriers of this new technology. Barriers include a high incremental cost, limited consumer awareness, and low product availability. The initiative offers incentives to reduce the retail price. In 2018, NEEA staff conducted lab tests and worked with the RTF to update the clothes dryer measure. As a result of the testing, the UES values for ENERGY STAR® clothes washers were increased.

A Multifamily Market Research Online Community group was created to help gain an understanding of the drivers, market players, and influences in multifamily building management, with the hopes of persuading multifamily developers, property managers, etc., to begin using heat pump dryers in their units.

Continued retailer pilots with Blomberg were offered, providing rebates for the purchase of qualified heat pump dryers and heat pump hybrid dryer units. One of the 2019 goals is to add promotions and rebates for clothes washers because washer performance affects the performance of heat pump dryers. The use of a high-efficiency washer leaves less moisture in the clothing, which allows the heat pump and heat pump hybrid dryer to work more efficiently. It would be ideal to market these units as a pair to ensure high satisfaction with the heat pump dryers.

The RPP Initiative was formed to provide mid-stream incentives to influence retail stocking and assortment practices that would eventually drive manufacturing and standards toward a portfolio of energy-efficient products sold through retail channels. In 2018, there were seven qualifying products and two tiers assigned to each product: basic and advanced. The incentive is not intended to buy down the purchase, but rather to influence stocking practices.

Residential Building Stock Assessment

NEEA released the results of the Residential Building Stock Assessment (RBSA) in early 2018. Results from the study were incorporated in Idaho Power's potential study to fill data gaps, as needed. The RTF will continue to update the deemed savings values and input parameters for residential energy-savings measures based on the results of the RBSA.

NEEA Activities: Commercial/Industrial

NEEA continued to provide support for commercial and industrial energy efficiency activities in Idaho in 2018, which included partial funding of the IDL for trainings and additional tasks.

Commercial Building Stock Assessment

NEEA began work on the Commercial Building Stock Assessment (CBSA) in 2018. The CBSA is conducted approximately every five years, and the information is used by utilities in the Pacific Northwest and the NWPCC to determine load forecast and electrical energy-savings potential in the region.

For commercial customers who choose to participate in the study, the third-party contractor schedules a site visit with a field technician who collects information on equipment and building characteristics that affect energy consumption. This includes HVAC equipment, lighting, building envelope, water heating, refrigeration and cooking, computers and miscellaneous equipment, and cooling towers. Participants receive a gift card and a site-specific report.

To prepare for the study, Idaho Power staff participated in the sampling and customer contact working groups. The sampling working group met to review and approve the sampling plan while the customer contact working group discussed the recruitment process and the customer contact protocols. A pre-test was conducted in Portland and Boise in fall of 2018 to test the recruitment process. The full study launched in late 2018; Idaho Power commercial customers will be contacted throughout 2019.

Commercial Code Enhancement

NEEA facilitated regional webinars for the CCE initiative for new construction to discuss how utilities can effectively align code changes and utility programs. The CCE is a NEEA initiative comprised of people with varying backgrounds and levels of association with the building construction industry. The group's goal is to enable the continual advancement of commercial construction and energy codes.

A subset of this group's work in 2018 included a Scanning Report that identified measures to be considered in future codes. This work will continue in 2019.

Strategic Energy Management

NEEA's work on SEM in the commercial and industrial sectors continued in 2018. The primary focus in 2018 was to consolidate all of the SEM templates, guidelines, and documents into the new SEM Hub website.

Commercial Lighting

Idaho Power participated in NEEA's initiatives in the commercial lighting arena. Idaho Power continued as a member of the NEEA Commercial Lighting Program Manager Work Group and the Commercial Advisory Committee.

Reduced Wattage Lamp Replacement

The Reduced Wattage Lamp Replacement (RWLR) initiative concluded December 2018. NEEA has converted this initiative to a long-term monitoring and tracking activity.

Top-Tier Trade Ally

The Top-Tier Trade Ally initiative offers lighting trade allies throughout the region multi-tiered training. One hundred seventy-nine individuals from 47 regional companies successfully completed NXT Level 1 Training and attained Top-Tier Trade Ally designation by the end of 2018. Eight individuals in Idaho Power's service area achieved the designation, for a total of 18 individuals program-to-date. To date, one company is designated as a Top-Tier Trade Ally in the Idaho Power service area.

NEEA launched a one-hour Jump Start training session in 2018 to aid in recruiting new NXT Level 1 students. The Jump Start session fulfilled one of the NXT Level training modules, which increased the interest for attendees to get involved in this valuable training. The Jump Start training was offered at four of Idaho Power's program update workshops in 2018. As a result, 36 people submitted enrollment applications for NXT Level 1 training. Five of those applicants completed the training and received designation.

NXT Level 2 training curriculum was finalized in 2018 and launched in fourth quarter. Currently, NXT Level 2 is an in-person curriculum. NEEA is rolling out this training to areas with higher NXT Level 1 designated populations. Development is underway to offer an online version of NXT Level 2 training. This version is expected to be available to the Idaho Power service area mid-2019.

Luminaire Level Lighting Controls

Idaho Power hosted two Advanced Lighting Controls classes in 2018. The classes were a follow-up to the pilot course the company hosted in 2017. The 2018 classes were held in Boise and Pocatello and both were well received. The DLC coordinated the training and curriculum, and NEEA helped sponsor the classes.

NEEA also partnered with the Seattle LDL to develop a one-day Advanced Lighting Controls curriculum targeted to electrical contractors and electrical equipment suppliers. The new course is an enhancement to the DLC class and was made available for utilities in their service area in 2019. Idaho Power plans to host a session in 2019.

By the end of 2018, 18 LLLC systems were available in the market. NEEA continues to work with manufacturers to help them achieve LLLC designation. NEEA, in partnership with the DOE's Next Generation Lighting System initiative, continues to work with manufacturers to improve product usability and ease of product installation.

NEEA Funding

In 2018, Idaho Power began the fourth year of the 2015 to 2019 *Regional Energy Efficiency Initiative Agreement* with NEEA. Per this agreement, Idaho Power is committed to fund NEEA based on a quarterly estimate of expenses up to the five-year total direct funding amount of $16.5 million in support of NEEA's implementation of market transformation programs in Idaho Power's service area. Of this amount in 2018, 100 percent was funded through the Idaho and Oregon Riders.

In 2018, Idaho Power paid $2,500,165 to NEEA; $2,375,157 from the Idaho Rider for the Idaho jurisdiction and $125,008 from the Oregon Rider for the Oregon jurisdiction. Other expenses associated with Idaho Power's participation in NEEA activities, such as administration and travel, were also paid from Idaho and Oregon Riders.

Final NEEA savings for 2018 will be released in June 2019. Preliminary estimates reported by NEEA for 2018 indicate Idaho Power's share of regional market transformation savings as 24,966 MWh. These savings are reported in two categories: codes-related and standards-related savings of 21,724 MWh and non-codes and standards-related savings of 3,241 MWh.

In the *Demand-Side Management 2017 Annual Report*, preliminary funding share estimated savings reported were 23,652 MWh. The revised estimate included in this report for 2017 final funding-share NEEA savings is 24,440 MWh. These include savings from code-related initiatives as well as non-code-related initiatives. Idaho Power relies on NEEA to report the energy savings and other benefits of NEEA's regional portfolio of initiatives. For further information about NEEA, visit their website, neea.org.

Program Planning Group

In 2014, Idaho Power convened an internal PPG to explore new opportunities to expand current DSM programs and offerings. The group consists of residential program specialists, commercial and industrial engineers, energy efficiency analysts, marketing specialists, energy efficiency program leaders, and the research and analysis leader. The PPG does not perform program execution. Instead, the group's role is to determine if a measure has energy-saving potential, has market adoption potential, and is potentially cost-effective. If a measure meets those preliminary criteria, it is given to the program teams to implement.

Throughout 2018, the group met periodically to explore new ideas to promote energy efficiency, including evaluating new potential programs and measures. Idaho Power incorporated three new ideas from the PPG into the overall portfolio of residential and commercial program offerings: HPWHs, Commercial Energy-Saving Kits, and the Residential New Construction Pilot Program. These offerings will continue to be available in 2019.

In addition to the offerings that were implemented, the company continued to pursue and investigate other new ideas, such as residential weatherization measures for direct-install and a small business

direct-install program for measures such as lighting or plug strips. Based on the criteria cited above, these offerings could be launched in 2019. Idaho Power will continue to use the PPG to review, evaluate, and deliver new energy efficiency offerings in 2019 and beyond.

Regional Technical Forum

The RTF is a technical advisory committee to the NWPCC, established in 1999 to develop standards to verify and evaluate energy efficiency savings. Since 2004, Idaho Power has supported the RTF by providing annual financial support, regularly attending monthly meetings, participating in sub-committees, and sharing research and data beneficial to the forum's efforts.

The forum is made up of both voting members and corresponding members from investor-owned and public utilities, consultant firms, advocacy groups, Energy Trust of Oregon, and BPA, all with varied expertise in engineering, evaluation, statistics, and program administration. The RTF advises the NWPCC during the development and implementation of the regional power plan in regard to the following listed in the RTF charter:

- Developing and maintaining a readily accessible list of eligible conservation resources, including the estimated lifetime costs and savings associated with those resources and the estimated regional power system value associated with those savings.
- Establishing a process for updating the list of eligible conservation resources as technology and standard practices change, and an appeals process through which utilities, trade allies, and customers can demonstrate that different savings and value estimates should apply.
- Developing a set of protocols by which the savings and system value of conservation resources should be estimated, with a process for applying the protocols to existing or new measures.
- Assisting the Council in assessing: 1) the current performance, cost, and availability of new conservation technologies and measures; 2) technology development trends; and 3) the effect of these trends on the future performance, cost, and availability of new conservation resources.
- Tracking regional progress toward the achievement of the region's conservation targets by collecting and reporting on regional research findings and energy savings annually.

When appropriate, Idaho Power uses the savings estimates, measure protocols, and supporting work documents provided by the RTF, and when the work products are applicable to the climate zones and load characteristics in Idaho Power's service area. In 2018, Idaho Power staff participated in all RTF meetings as a voting member and the RTF Policy Advisory Committee. Idaho Power staff is represented at the RTF for the three-year forum member term cycle beginning in 2019.

Measure changes enacted for existing and possible new measures are reviewed throughout the year for potential impacts to programs and measures. All implementations of changes were accounted for in planning and budgeting for 2019.

Residential Energy Efficiency Education Initiative

Idaho Power recognizes the value of general energy efficiency awareness and education in creating behavioral change and customer demand for, and satisfaction with, its programs. The REEEI promotes energy efficiency to the residential sector. The company achieves this by creating and delivering

educational materials and programs that result in wise and informed choices regarding energy use and increased participation in Idaho Power's energy efficiency programs.

Project Tiny House

In 2018, Idaho Power collaborated with Metro Community Services (Metro) and Canyon-Owyhee School Service Agency (COSSA) to build a tiny house. Idaho Power provided $3,500 for the purchase and installation of a DHP. Metro is an Idaho nonprofit that helps seniors, low-income people, and those with disabilities. COSSA is a trade and craft high school with students from Marsing, Homedale, Notus, Parma, and Wilder.

Metro supplied or secured the remaining supplies, and the COSSA students learned various aspects of construction through hands-on building of the tiny house. The completed tiny house was displayed at trade shows and other promotional events within Idaho Power's service area. Approximately 10 students in grades 10 through 12 worked on the home from November 2017 through June 2018, which was raffled off in September of 2018 to raise funds for senior services.

Figure 42. Tiny house

Idaho Power's promotion of Project Tiny House included custom signage to hang inside the home highlighting the energy-efficient features. Additional promotion included an article in the April issue of *Connections*. The tiny house drew customers at several events, such as March for Meals, Incredible Age Expo, Annual Information Fair, Experience Idaho Expo, Wells Fargo Sustainability Fair, HP World Environment Day, Meridian Public Works Expo, World Village Fest, Culinary Walkabout, Canyon Country Fair, and various Home Depot's throughout the Treasure Valley.

In 2018, Idaho Power partnered with Project Tiny House for the 7th annual Treefort Music Fest, held across the street from Idaho Power CHQ in downtown Boise. The annual festival brings nearly 20,000 local residents and others from around the region to the downtown area over five days of music and community-oriented programming. The partnership was a resounding success. Not only did the

attraction of the Tiny House help increase the number of attendees who interacted with Idaho Power staff to learn about the company's parks and campgrounds, but the Project Tiny House team was able to sell 25 tickets for their 2018 raffle for the home.

The tiny house proved to be of great interest to curious customers at a variety of events. This gave an opportunity for customers to see what a DHP looked like installed in a wall and to feel the air conditioning it could provide. The home also provided opportunities to talk about various other energy efficiency measures, such as LED lighting and low-flow showerheads, as well as measures that are not readily visible, such as spray foam insulation.

While the tiny house proved useful for attracting and engaging customers, it was not a successful fundraiser for Metro, so they decided to discontinue the project.

Kill A Watt Meter Program

The Kill A Watt™ Meter Program remained active in 2018. Idaho Power's Customer Service Center and field staff continued to encourage customers to learn about the energy used by specific appliances and activities within their homes by visiting a local library to check out a Kill A Watt meter.

Figure 43. Kill A Watt meter

The Kill A Watt meter brochure was updated in 2018. The Kill A Watt meters were mentioned again on live television studio news programs on KTVB and KMVT in Idaho Power's monthly energy efficiency segments and highlighted in the 2018 Winter *Energy Efficiency Guide*. Late in 2017, Idaho Power contacted participating libraries to determine what, if any, replacements were needed. Those communications continued into 2018. Forty-three libraries responded with requests for additional materials, including new meters, replacement kits, brochures and/or 30 Simple Things You Can Do to Save Energy booklets.

Teacher Education

As in previous years, Idaho Power continued to strengthen the energy education relationship with secondary school educators through continued participation on the Idaho Science, Technology, Engineering, and Mathematics (iSTEM) Steering Committee. In 2018, Idaho's STEM Action Center assumed the responsibility for overseeing the state's iSTEM Institutes. This strategic change of leadership resulted in many positive outcomes; however, some challenges in the enrollment process resulted in lower enrollments. In 2018, 13 teachers completed the four-day, two-credit professional development workshop offered at the College of Western Idaho's iSTEM Institute. The workshop "Electrons—Pushing, Using, and Saving Them!" was facilitated by Idaho Power and co-sponsored by Intermountain Gas and the Idaho National Laboratory (INL). Among other things, participating teachers toured the Langley Gulch power plant and received a classroom kit containing Kill A Watt meters and other tools to facilitate student learning related to energy efficiency and wise energy use. Idaho Power took advantage of the extra space in the 2018 workshop to introduce its five community education representatives to STEM practices and concepts. These employees regularly interact with students and teachers in the schools and are increasingly used to bring relevant STEM activities into schools and classrooms in Idaho Power's service area. By participating in the 2018 workshop, teachers developed skills and relationships to help them engage middle school and high school students in activities and conversations around future energy needs, and energy efficiency options and choices.

Student Art Contest

Idaho Power held its 8th Annual Student Art Contest for grades K-9. Kindergarten through second grade completed a simple color page highlighting safety. Students in grades 3-9 were tasked with creating original artwork based on the themes "Ways to Save Energy" or "Environmental Stewardship." Many students drew pictures of their favorite ways to save energy in the home. The Student Art Contest provides a way for teachers and students to bring energy efficiency education into their classroom and inspire students and families to think more about energy. With 4,654 submissions, over 30 students were recognized with first- and second-place awards. Over the years, student artwork has been displayed in local schools, libraries and city halls, and at events such as the annual Idaho Environmental Education Conference and elementary school STEM nights. Students in both Idaho and Oregon participated in 2019 (3,827 Idaho and 827 Oregon).

Figure 44. Eighth annual Student Art Contest participants

Program Support

In 2018, 44,691 ESKs were shipped with a mini-home assessment to cross-market other energy efficiency programs, promote the use of My Account, and help families learn about other energy-saving behavior changes. Savings and expenses have been reported in the Educational Distributions residential program section of this report.

The initiative continued to coordinate LED lightbulb distributions aimed at providing the newest lighting technology to customers, along with education and answers to their common questions. At events and presentations, company staff distributed 9,450 LEDs in custom packaging that highlighted the advantages of energy-efficient lighting and encouraged participation in Idaho Power's My Account online portal. Customer representatives throughout the service area also handed out 700 Giveaway ESKs containing nine LED lightbulbs and other educational materials in conjunction with energy efficiency presentations and workshops. The energy savings resulting from these efforts and from the SEEK program for the 2017–2018 school year are also reported in the Educational Distributions residential program section of this report.

The initiative also implemented a Welcome Kit program with the goal of proactively introducing each first-time customer to sound, energy-saving practices along Idaho Power's energy efficiency programs at a moment when they may be receptive to hearing and implementing change. In the first year, approximately 30,500 brand new customers received a Welcome Kit delivered to their home about 30-45 days after they moved in. Each kit contained four LED lightbulbs, a night light, a "Welcome to the Neighborhood" greeting card, and a small, easy-to-use, tabbed flip-book filled with helpful energy-saving tips and energy efficiency program information.

The initiative continued to manage the HER pilot program. During the year, 105,626 reports were sent to over 29,000 participants across the service area. The customized reports, delivered to customers at regular intervals, showed customers how their energy use compared to other homes in their respective communities with similar characteristics (i.e., home size, type, and heating source). In addition to the comparisons, the *Home Energy Reports* provided participants with a personalized breakdown of how electricity is used in their home (disaggregated energy use), along with customized energy-saving tips and suggestions. Idaho Power determined to continue the pilot for a second year—adding 5,624 new winter-heating participants. The new group will receive bi-monthly reports. The results of both pilot years will be analyzed in late summer 2019. At that time, Idaho Power will decide whether to continue or expand the HER pilot.

Marketing

REEEI continued to produce semiannual *Energy Efficiency Guide*s in 2018. Idaho Power distributed these guides primarily via insertion in local newspapers and at events across Idaho Power's service area. The winter *Energy Efficiency Guide* was published and distributed by 17 newspapers in Idaho Power's service area the week of January 28; the *Boise Weekly* also inserted the guide. The guide focused on providing answers to a number of interesting energy efficiency questions customers had recently asked. Along with useful energy-saving tips, the guide addressed hot tubs, programmable pressure cookers, high efficiency washers, portable space heaters, and ENERGY STAR® smart thermostats. The information was applicable to all residential customers and designed to be family friendly. Idaho Power included a story from the guide in January *News Briefs*, *News Scans*, and a promo pod on the idahopower.com homepage.

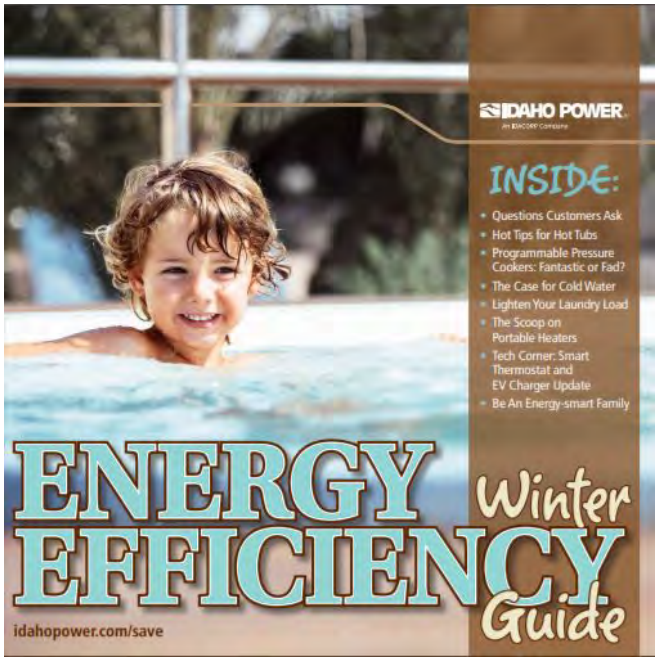

Figure 45. Winter *Energy Efficiency Guide*, 2018

The *Idaho Statesman* hosted Idaho Power's print ads, digital ads, and banner ads promoting the guide, including a one-day online homepage takeover on January 27, resulting in 173,223 impressions, 342 click throughs, and a click through rate of 20 percent. The newspaper also hosted a 30-second energy

efficiency commercial as a video pre-roll from January 28 to February 28. An Idaho Power Facebook boost was used to promote the guide to Idaho Power followers.

The summer *Energy Efficiency Guide* was delivered to over 194,000 homes the week of July 29, 2018. This guide highlighted efficient ways to stay comfortable during the hot summer months and specific room-by-room tips for reducing energy use at home and while on vacation. It also discussed how to use landscaping to increase a home's comfort and boost energy efficiency.

The release of the summer guide received public relations support through numerous communication channels, including *News Briefs, News Scans,* on Idaho Power's social media accounts, and in digital ads on local newspaper websites, targeted to customers in the service area during the last week of July, including the *Times News, Idaho State Journal, Boise Weekly,* and *Idaho Press*. The summer guide was also mentioned during an Idaho Power interview on KBOI on July 13.

Both of the 2018 guides were translated into Spanish to help reach the larger Idaho Power customer base. In 2018, the company distributed a total of 5,500 guides, including issues from past years, at energy efficiency presentations and events. The current library of guides continues to add value. Specific issues are often requested for distribution at events and presentations based on their relevance to the particular audience. On its website, Idaho Power provides a link to the most current seasonal guide and links to past guides.

REEEI distributed energy efficiency messages through a variety of other communication methods in 2018. Idaho Power increased customer awareness of energy-saving ideas via continued distribution of the third printing of the 96-page booklet *30 Simple Things You Can Do to Save Energy*, a joint publishing project between Idaho Power and The Earthworks Group. The fourth printing of the booklet was updated to include a more colorful cover that aligns with the overall energy efficiency imagery. In 2018, the program distributed 2,560 copies directly to customers. This was accomplished via community events and local libraries; by customer representatives during in-home visits; by participating contractors in the Home Energy Audits program, Energy House Calls program, and H&CE Program through direct web requests; and in response to inquiries received by Idaho Power's Customer Service Center. Additionally, more than 44,000 customers had an opportunity to request the booklet and/or the most recent *Energy Efficiency Guide* when they ordered their ESK online.

Idaho Power continues to recognize that educated employees are effective advocates for energy efficiency and Idaho Power's energy efficiency programs. Idaho Power customer relations and energy efficiency staff reached out to each of Idaho Power's geographical regions and the Customer Service Center to speak with customer representatives and other employees to discuss educational initiatives and answer questions about the company's energy efficiency programs.

Idaho Power continued to participate in a select group of events impacting large audiences or audiences expected to have a higher receptivity to energy-efficient messaging and behavior change. Idaho Power once again participated in The Incredible Age Expo (targeting customers preparing for retirement), Boise's Treefort Music Fest (skewing to sustainably minded younger people), St. Luke's FitOne Expo, and numerous home and garden shows throughout the service area. Idaho Power participated in or sponsored an additional 45 outreach activities, including events, presentations, trainings, and other activities. Idaho Power customer representatives throughout the service area delivered numerous

other presentations to local organizations addressing energy efficiency programs and wise energy use. In 2018, Idaho Power's community education team provided 118 presentations on *The Power to Make a Difference* to 3,063 students and 122 classroom presentations on *Saving a World Full of Energy* to 2,803 students. The community education representatives and other staff also completed 24 senior citizen presentations on energy efficiency programs and shared information about saving energy to 1,149 senior citizens in the company's service area. Additionally, Idaho Power's energy efficiency program specialists responded with detailed answers to 241 customer questions about energy efficiency and related topics received via Idaho Power's website.

Idaho Power used multiple channels to promote National Energy Awareness Month in October, including social media posts encouraging energy-efficient behaviors, as well as customer engagement in the Smart-Saver Pledge. The October *Connections*, two *News Briefs*, and the KTVB and KMVT monthly television spots also highlighted Energy Awareness Month activities.

The REEEI continued to provide energy efficiency tips in response to media inquiries and in support of Idaho Power's *#TipTuesday* posts. In addition to supplying information for various Idaho Power publications, such as *News Scans, Connections,* and Idaho Power's social media pages, energy efficiency tips and content were provided for weekly *News Briefs* and monthly KTVB and KMVT live news segments.

Several new videos, including customer testimonials and experiences, were made available on Idaho Power's YouTube channel. These included the following:

- Summer Learning with Idaho Power: youtube.com/watch?v=C90d72ZoPeI
- Energy Efficiency Quick Tip series (13 short clips): youtube.com/watch?v=X3JQdtNLtt4

2019 Program and Marketing Strategies

The initiative's 2019 goals are to increase customer awareness of the wise use of energy and program participation and to promote education and energy-saving ideas that result in energy-efficient, conservation-oriented behaviors. In addition to producing and distributing educational materials, the initiative will continue to manage the company's Educational Distributions program that distributes energy-savings educational measures. Examples of activities conducted under Educational Distributions include developing LED lighting education material, distributing LED lightbulbs and Giveaway ESKs to customers, and administering the SEEK program, the ESK program, Welcome Kit distribution, and the HER pilot program.

The initiative will continue to educate customers using a multi-channel approach and to work with the PPG to explore new technologies and/or program opportunities that incorporate a behavioral component.

University of Idaho Integrated Design Lab

Idaho Power is a founding supporter of the IDL. The IDL is dedicated to the development of high-performance, energy-efficient buildings in the Intermountain West. Idaho Power has worked with the IDL since its inception in 2004 to educate the public about how energy-efficient business practices benefit the business and the customer. In 2018, Idaho Power entered into an agreement with the IDL to perform the tasks and services described below.

Foundational Services

The goal of this task was to provide energy efficiency technical assistance and project-based training to building industry professionals and customers. When the IDL receives requests for their involvement in building projects, the projects are categorized into one of three types: Phase I projects are simple requests that can be addressed with minimal IDL time; Phase II projects are more complex requests that require more involvement and resources from the lab; Phase III projects are significantly more complex and must be co-funded by the customer.

In addition to 16 ongoing projects from 2017, the IDL provided technical assistance on 30 new projects in the Idaho Power service area in 2018: 16 Phase I projects, six Phase II and one proposed Phase III project. An additional seven projects are proposed for potential future work. Twelve of the projects were on new buildings, 11 on existing buildings, and the remaining were not building-specific. The number of projects increased in 2018 compared to 2017, and the total building area impacted was approximately 250,000 ft^2. The related report is located in the IDL section of *Supplement 2: Evaluation*.

Lunch & Learn

The goal of the Lunch & Learn task was to educate architects, engineers, and other design and construction professionals about energy efficiency topics through a series of educational lunch sessions.

In 2018, the IDL scheduled 20 technical training lunches in Boise. The sessions were coordinated directly with architecture and engineering firms and organizations; a total of 194 architects, engineers, designers, project managers, and others attended.

The topics of the lunches (and number of each) were: Indoor Air Quality (IAQ) and Energy Efficiency in Buildings (6); Daylight Performance Metrics for Human Health, Productivity, and Satisfaction (4); Daylight in Buildings: Getting the Details Right (3); Chilled Beams (2); Radiant Heating and Cooling Design (3); Hybrid Ground Source Heat Pump Systems (1); and Variable Refrigerant Flows (VRF) & Heat Pumps (1). The related report is located in the IDL section of *Supplement 2: Evaluation*.

Building Simulation Users Group

The goal of this task was to facilitate the Idaho BSUG, which is designed to improve the energy efficiency-related simulation skills of local design and engineering professionals.

In 2018, six monthly BSUG sessions were hosted by IDL. The sessions were attended by 72 professionals in-person and 85 professionals remotely. Evaluation forms were completed by attendees for each session. On a scale of 1 to 5, with 5 being “excellent” and 1 being “poor,” analyzing results from the first six questions, the average session rating was 4.11 for 2018. For the final question, “The content of the presentation was…” on a scale of 1 to 5, with 1 being “too basic,” 3 being “just right,” and 5 being “too advanced,” the average session rating was 3.42 for 2018.

Each presentation was archived on the BSUG 2.0 website along with general BSUG-related content. The related report is located in the IDL section of *Supplement 2: Evaluation*.

New Construction Verification

The goal of this task was to continue random installation verification of over 10 percent of the C&I Energy Efficiency Program New Construction participants who received incentives. The company

conducted a review of documentation and completed on-site inspections to validate whether systems and components had been installed. The purpose of this verification was to confirm program guidelines and requirements were helping participants provide accurate information regarding measure installations. See the New Construction option in the C&I Energy Efficiency Program section for a summary of these activities. The complete verification report is located in the IDL section of *Supplement 2: Evaluation*.

This task also included the review of all daylight photo-control incentives to verify site conditions and improve the quality of design and installation.

Tool Loan Library

The TLL gives customers access to tools for measuring and monitoring energy consumption on various systems within their operations. The goal of this task was to operate and maintain the tool library, which includes a web-based loan-tracking system, and to provide technical training on the use of tools in the library.

The inventory of the TLL consists of over 900 individual pieces of equipment. In 2018, 20 new tools were added to replace old data logging models, as well as a new portable thermal camera with an external power supply for extended periods of use. The tools and manuals are available at no cost to customers, engineers, architects, and contractors in Idaho Power's service area to aid in the evaluation of energy efficiency projects and equipment they are considering.

There were 38 tool loan requests in 2018, by 22 unique users, including 11 new users from 14 different locations, including engineering firms, equipment representatives, educational institutions, industrial plants, and commercial facilities. The related report is located in the IDL section of *Supplement 2: Evaluation*.

Heat Pump Calculator/Climate Design Tools/TEST

This task was a continuation of work done in a task that began in 2013 and continued through 2018. The goal of the original task was to develop an Excel-based heat pump analysis tool to calculate energy use and savings based on site-specific variables for commercial buildings. Previously, IDL identified a lack of sophisticated heat pump energy-use calculators available with the capability of comparing the energy use of heat pumps in commercial buildings against other technologies in a quick, simple fashion.

The calculator has been updated to reflect feedback from validation testing, including an improved user interface and the ability to integrate Typical Meteorological Year, version three weather files for locations where that data is available. A few years ago, the IDL completed a set of Climate Design Tools intended to inform sustainable design and calculate the impacts of five innovative types of systems: earth tubes, passive heating, cross ventilation, stack ventilation, and night flush ventilation/thermal mass. In 2015, the IDL integrated three of the five climate design tools into the Heat Pump Calculator. This unification produced a single platform life-cycle analysis tool for several energy efficiency measures not currently well-supported with other tools in the industry. In 2016, the IDL unified two additional climate-design tools to the calculator and added seven unique weather files for sites around Idaho. The work in 2017 focused on outreach, education, and customization of the tool. In 2018, the tool was renamed to the Thermal Energy Savings Tool or TEST.

Outreach continued in 2018 but was not the main emphasis of the task. Even so, there were several new inquiries and tool downloads. The IDL included information on the TEST in many of the Lunch and Learn presentations delivered at architecture and engineering firms in Idaho. Whenever a user requested access to the tool, the IDL sent the TEST spreadsheet through the service WeTransfer because it is too large to attach in a traditional email. A disclaimer is included with each tool download that makes clear the tool does not guarantee savings, and the user is responsible for verifying his/her own calculations. Rather than sending out the tool based on individual requests, the goal for 2019 is for the IDL to host the tool online when the new IDL website is launched. Once there, the tool will be available for free download by those who create an account with IDL and agree to the disclaimer. The related report for this task is located in the IDL section of *Supplement 2: Evaluation*.

Building Energy Analytics Case Study

In 2018, IDL completed the task called "Building Energy Analytics Case Study." The purpose of this task was to identify potential savings from the implementation of a new type of energy management software focusing on building analytics. Currently, several companies promote this new type of software that monitors many control points within a building. Some examples of these analytic software packages include SkySpark, EnergyCap and BuildingIQ. These data-analysis software packages can overlay traditional Building Automation Systems (BAS) or Energy Management Systems (EMS).

The analytic software does not directly control any building equipment. Instead, its primary use is to monitor many control signals and identify potential operational problems within the building. This continuous monitoring has the potential to help maintain building commissioning and limit performance degradation through the building's life.

IDL first identified sites that were considering the addition of an analytics system in 2018. The IDL team worked with the facility owners and control teams to document any implementation issues. The last step of the project was to identify whether the installation of the analytics software led to any operational changes and to estimate potential savings resulting from those changes.

The use of energy analytics software at the two case-study sites proved key to identifying several energy efficiency measures and equipment faults. The studies showed that the software's full potential can be realized only when there is an existing direct digital control (DDC) system and a person dedicated to monitor the system and communicate issues to the facilities team.

The related report for this task is located in the IDL section of *Supplement 2: Evaluation*.

Measuring Indoor Performance at Educational Facilities

In 2018, IDL completed a task named Measuring Indoor Performance at Educational Facilities. The purpose of this task was to determine how effective HVAC systems are at cooling a typical secondary school classroom. IDL used the data to quantify energy savings that could be achieved through operational changes without adversely affecting occupant comfort. Four classrooms at two separate high schools were intensively monitored for several weeks. The temperature measurements from these classrooms were used to extrapolate cooling required in the schools during the spring and fall when the buildings are still using A/C. Department of Energy (DOE) prototype models of the schools were used to show how set point and scheduling adjustments to the HVAC operations could reduce peak loads and

overall energy consumption at typical Idaho high schools while maintaining high environmental quality for the students.

Most classroom temperatures measured in this project fell below the recommended comfort parameters as specified by ASHRAE Standard 55. Enhancing thermal performance of the classrooms will save on unnecessary cooling and could increase student productivity. The classrooms could be brought into compliance by raising the cooling setpoint by 4 degrees Fahrenheit. This 4-degree adjustment is estimated to save an Idaho school $4 per student, 60 kWh, and 30 watts of electrical energy per student in annual energy use.

The related report for this task is located in the IDL section of *Supplement 2: Evaluation*.

2019 IDL Strategies

In 2019, IDL will continue work on the Foundational Services, Lunch & Learn sessions, BSUG, New Construction Verifications, TLL, and the Heat Pump Calculator. IDL will also provide work on two new tasks in 2019: A Building Energy Management System Predictive Control Case Study and a RTU Control Retrofits for Small Commercial Sites task.

GLOSSARY OF ACRONYMS

A/C—Air Conditioning/Air Conditioners

Ads—Advertisement

AEG—Applied Energy Group

AIA—American Institute of Architects

AMI—Advanced Metering Infrastructure

aMW—Average Megawatt

ASHRAE—American Society of Heating, Refrigeration, and Air Conditioning Engineers

B/C—Benefit/Cost

BAS—Building Automation Systems

BCASEI—Building Contractors Association of Southeast Idaho

BCASWI—Building Contractors Association of Southwestern Idaho

BOMA—Building Owners and Managers Association

BOC—Building Operator Certification

BPA—Bonneville Power Administration

BPI—Building Performance Institute

BSUG—Building Simulation Users Group

CAP—Community Action Partnership

CAPAI—Community Action Partnership Association of Idaho, Inc.

CCE—Commercial Code Enhancement

CCNO—Community Connection of Northeast Oregon, Inc.

CEI—Continuous Energy Improvement

CEL—Cost-Effective Limit

CFM—Cubic Feet per Minute

CHQ—Corporate Headquarters (Idaho Power)

CINA—Community in Action

CLEAResult—CLEAResult Consulting, Inc.

COP—Coefficient of Performance

CR&EE—Customer Relations and Energy Efficiency

DDC—Direct Digital Control

DEQ—Department of Environmental Quality

DHP—Ductless Heat Pump

DLC—DesignLights Consortium

DOE—Department of Energy

DSM—Demand Side Management

EA5—EA5 Energy Audit Program

ECM—Electronically Commutated Motor

EEAG—Energy Efficiency Advisory Group

EIA—U.S. Energy Information Administration

EICAP—Eastern Idaho Community Action Partnership

EISA—Energy Independence and Security Act

EL ADA—El Ada Community Action Partnership

EM&V—Evaluation, Measurement, and Verification

EMS—Energy Management Systems

EPA—Environmental Protection Agency

ESK—Energy-Saving Kit

ETO—Energy Trust of Oregon

EV—Electric Vehicle

ft—Feet

ft^2—Square Feet

ft^3—Cubic Feet

GMI—Green Motors Initiative

GMPG—Green Motors Practice Group

gpm—Gallons per Minute

H&CE—Heating & Cooling Efficiency Program

HEM-LLC—Home Energy Management, LLC.

hp—Horsepower

HPWH—Heat Pump Water Heater

HSPF—Heating Seasonal Performance Factor

HVAC—Heating, Ventilation, and Air Conditioning

IAQ—Indoor Air Quality

IBCA—Idaho Building Contractors Association

IBCB—Idaho Building Code Board

IBOA—International Building Operators Association

ICC—International Code Council

ID—Idaho

IDHW—Idaho Department of Health and Welfare

IDL—Integrated Design Lab

IECC—International Energy Conservation Code

INL—Idaho National Laboratory

IPMVP—International Performance Measurement and Verification Protocol

IPUC—Idaho Public Utilities Commission

IRP—Integrated Resource Plan

iSTEM—Idaho Science, Technology, Engineering, and Mathematics

kW—Kilowatt

kWh—Kilowatt hour

LDL—Lighting Design Lab

LEEF—Local Energy Efficiency Funds

LIHEAP—Low Income Home Energy Assistance Program

LLLC—Luminaire Level Lighting Controls

LTMT—Long-Term Monitoring and Tracking

M&V—Measurement and Verification

MOU—Memorandum of Understanding

MPER—Market Progress Evaluation Report

MVBA—Magic Valley Builders Association

MW—Megawatt

MWh—Megawatt hour

MWSOC—Municipal Water Supply Optimization Cohort

n/a—Not Applicable

NAMI—National Alliance on Mental Illness

NEB—Non-Energy Benefit

NEEA—Northwest Energy Efficiency Alliance

NEEM—Northwest Energy Efficient Manufactured

NEMA—National Electrical Manufacturers Association

NPR—National Public Radio

NTG—Net to Gross

NWPCC—Northwest Power and Conservation Council

O&M—Operation and Maintenance

OPUC—Public Utility Commission of Oregon

OR—Oregon

ORS—Oregon Revised Statute

OSV—On-Site Verification

PCA—Power Cost Adjustment

PCT—Participant Cost Test

PLC—Powerline Carrier

PPG—Program Planning Group

PSC—Permanent Split Capacitor

PTCS—Performance Tested Comfort System

QA—Quality Assurance

QC—Quality Control

RAC—Residential Advisory Committee

RAP—Resource Action Programs

RBSA—Residential Building Stock Assessment

RCT—Randomized Control Trial

REEEI—Residential Energy Efficiency Education Initiative

RESNET—Residential Services Network

RETAC—Regional Emerging Technologies Advisory Committee

RFP—Request for Proposal

Rider—Idaho Energy Efficiency Rider and Oregon Energy Efficiency Rider

RIM—Ratepayer Impact Measure

RPAC—Regional Portfolio Advisory Committee

RPP—Retail Products Portfolio

RTF—Regional Technical Forum

RWLR—Reduced Wattage Lamp Replacement

SCCAP—South Central Community Action Partnership

SCE—Streamlined Custom Efficiency

SEEK—Students for Energy Efficiency Kit

SEICAA—Southeastern Idaho Community Action Agency

SEM—Strategic Energy Management

SIR—Savings to Investment Ratio

SRVBCA—Snake River Valley Building Contractors Association

TLL—Tool Loan Library

TRC—Total Resource Cost

TRM—Technical Reference Manual

TSV—Thermostatic Shower Valve

UCT—Utility Cost Test

UES—Unit Energy Savings

UM—Utility Miscellaneous

US—United States

USDA—United States Department of Agriculture

USGBC—US Green Building Council

VFD—Variable Frequency Drive

VHE DOAS—Very High Efficiency Dedicated Outside Air Systems

VRF—Variable Refrigerant Flow

W—Watt

WAP—Weatherization Assistance Program

WAQC—Weatherization Assistance for Qualified Customers

WHF—Whole-House Fan

WWEEC—Wastewater Energy Efficiency Cohort

XMP—Extended Motor Products

APPENDICES

Appendix 1. Idaho Rider, Oregon Rider, and NEEA payment amounts (January–December 2018)

Idaho Energy Efficiency Rider		
2018 Beginning Balance	$	407,603
2018 Funding plus Accrued Interest as of 12-31-18		38,514,355
Total 2018 Funds		**38,921,958**
2018 Expenses as of 12-31-18		(33,663,001)
Ending Balance as of 12-31-2018	**$**	**5,258,957**
Oregon Energy Efficiency Rider		
2018 Beginning Balance	$	(6,272,529)
2018 Funds Transfer from Advice No. 18-11		5,500,000
2018 Funding plus Accrued Interest as of 12-31-18		1,132,690
Total 2018 Funds		**360,161**
2018 Expenses as of 12-31-18		(1,757,910)
Ending Balance as of 12-31-2018	**$**	**(1,397,749)**
NEEA Payments		
2018 NEEA Payments as of 12-31-2018	$	2,500,165
Total	**$**	**2,500,165**

Appendix 2. 2018 DSM expenses by funding source (dollars)

Sector/Program	Idaho Rider	Oregon Rider	Non-Rider Funds	Total
Energy Efficiency/Demand Response				
Residential				
A/C Cool Credit	$ 433,659	$ 36,425	$ 374,285	$ 844,369
Easy Savings: Low-Income Energy Efficiency Education	—	—	147,936	147,936
Educational Distributions	3,307,782	67,409	—	3,375,192
Energy Efficient Lighting	2,343,127	92,003	—	2,435,130
Energy House Calls	146,712	14,065	—	160,777
Fridge and Freezer Recycling Program	33,172	735	—	33,907
Heating & Cooling Efficiency Program	565,780	19,431	—	585,211
Home Energy Audit	264,394	—	—	264,394
Multifamily Energy Savings Program	205,131	—	—	205,131
Oregon Residential Weatherization	—	5,507	—	5,507
Rebate Advantage	105,770	41,714	—	147,483
Residential New Construction Pilot Program	400,910	2	—	400,912
Shade Tree Project	162,995	—	—	162,995
Simple Steps, Smart Savings™	86,721	3,762	—	90,484
Weatherization Assistance for Qualified Customers	—	—	1,272,973	1,272,973
Weatherization Solutions for Eligible Customers	998,233	—	24,237	1,022,471
Commercial/Industrial				
Commercial and Industrial Energy Efficiency Program				
Custom Projects	8,400,495	395,860	12,156	8,808,512
New Construction	2,004,058	65,587	—	2,069,645
Retrofits	5,732,650	257,529	—	5,990,179
Commercial Education Initiative	144,436	1,738	—	146,174
Flex Peak Program	58,727	64,316	310,270	433,313
Irrigation				
Irrigation Efficiency Rewards	2,681,664	233,916	38,126	2,953,706
Irrigation Peak Rewards	230,953	180,865	6,479,919	6,891,737
Energy Efficiency/Demand Response Total	**$ 28,307,370**	**$ 1,480,863**	**$ 8,659,904**	**$ 38,448,137**
Market Transformation				
NEEA	2,375,157	125,008	—	2,500,165
Market Transformation Total	**$ 2,375,157**	**$ 125,008**	**$ —**	**$ 2,500,165**
Other Programs and Activities				
Commercial/Industrial Energy Efficiency Overhead	444,787	23,051	558	468,396
Energy Efficiency Direct Program Overhead	225,437	11,865	—	237,302
Home Improvement Program	2,926	—	—	2,926
Oregon Commercial Audit	—	1,473	—	1,473
Residential Energy Efficiency Education Initiative	163,255	8,961	—	172,215
Residential Energy Efficiency Overhead	1,042,132	54,125	—	1,096,257
Other Programs and Activities Total	**$ 1,878,538**	**$ 99,474**	**$ 558**	**$ 1,978,570**
Indirect Program Expenses				
Energy Efficiency Accounting & Analysis	987,281	51,254	180,706	1,219,241
Energy Efficiency Advisory Group	16,837	887	—	17,724
Special Accounting Entries	97,820	424	—	98,243
Indirect Program Expenses Total	**$ 1,101,937**	**$ 52,565**	**$ 180,706**	**$ 1,335,208**
Grand Total	**$ 33,663,001**	**$ 1,757,910**	**$ 8,841,168**	**$ 44,262,080**

Appendix 3. 2018 DSM program activity

Program	Participants		Total Costs		Savings		Measure Life (Years)	Nominal Levelized Costs [a]	
			Utility [b]	Resource [c]	Annual Energy (kWh)	Peak Demand [d] (MW)		Utility ($/kWh)	Total Resource ($/kWh)
Demand Response									
A/C Cool Credit[1]	26,182	homes	$ 844,369	$ 844,369	n/a	29	n/a	n/a	n/a
Flex Peak Program[1]	140	sites	433,313	433,313	n/a	33	n/a	n/a	n/a
Irrigation Peak Rewards[1]	2,335	service points	6,891,737	6,891,737	n/a	297	n/a	n/a	n/a
Total			**$ 8,169,419**	**$ 8,169,419**		359			
Energy Efficiency									
Residential									
Easy Savings: Low-Income Energy Efficiency Education	282	HVAC tune-ups	147,936	147,936	29,610		3	1.372	1.372
Educational Distributions	94,717	kits/giveaways	3,180,380	3,180,380	16,051,888		11	0.019	0.019
Energy Efficient Lighting	1,340,842	lightbulbs	2,435,130	3,277,039	18,856,933		14	0.011	0.014
Energy House Calls	280	homes	160,777	160,777	374,484		16	0.032	0.032
Fridge and Freezer Recycling Program	304	refrigerators/freezers	33,907	33,907	73,602		7	0.061	0.061
Heating & Cooling Efficiency Program	712	projects	585,211	1,686,618	1,556,065		15	0.029	0.091
Home Energy Audit	466	audits	264,394	321,978	211,003		12	0.113	0.137
Home Energy Report Pilot Program[2]	23,914	treatment size	194,812	194,812	3,281,780		1	0.046	0.046
Multifamily Energy Savings Program	25	projects	205,131	205,131	655,953		11	0.030	0.030
Oregon Residential Weatherization	5	audits	5,507	5,507			30		
Rebate Advantage	107	homes	147,483	355,115	284,559		45	0.027	0.064
Residential New Construction Pilot	307	homes	400,912	926,958	777,369		36	0.028	0.064
Shade Tree Project	2,093	trees	162,995	162,995	35,571		20	0.307	0.307
Simple Steps, Smart Savings™	7,377	appliances/showerheads	90,484	133,101	241,215		12	0.034	0.050
Weatherization Assistance for Qualified Customers	193	homes/non-profits	1,272,973	1,819,491	649,505		30	0.111	0.159
Weatherization Solutions for Eligible Customers	141	homes	1,022,471	1,022,471	571,741		23	0.112	0.112
Sector Total			**$ 10,310,503**	**$ 13,634,216**	**43,651,278**		**13**	**$ 0.020**	**$ 0.027**
Commercial/Industrial									
Commercial Energy-Saving Kits	1,652	kits	146,174	146,174	442,170		10	0.034	0.034
Custom Projects	248	projects	8,808,512	16,112,540	46,963,690		16	0.014	0.026
Green Motors—Industrial	25	motor rewinds			64,167		7	n/a	n/a
New Construction	104	projects	2,069,645	5,054,215	13,378,315		12	0.014	0.034
Retrofits	1,358	projects	5,990,179	16,253,716	34,910,707		12	0.015	0.042
Sector Total			**$ 17,014,509**	**$ 37,566,644**	**95,759,049**		**14**	**$ 0.015**	**$ 0.032**

Program	Participants	Total Costs		Savings		Measure Life (Years)	Nominal Levelized Costs [a]	
		Utility [b]	Resource [c]	Annual Energy (kWh)	Peak Demand [d] (MW)		Utility ($/kWh)	Total Resource ($/kWh)
Irrigation								
Green Motors—Irrigation	26 motor rewinds			67,676		19	n/a	n/a
Irrigation Efficiency Reward	1,022 projects	$ 2,953,706	$ 11,948,469	18,933,831		8	$ 0.019	$ 0.076
Sector Total		**$ 2,953,706**	**$ 11,948,469**	**19,001,507**		**8**	**$ 0.019**	**$ 0.075**
Energy Efficiency Portfolio Total		**$ 30,278,718**	**$ 63,149,329**	**158,411,834**		**13**	**$ 0.016**	**$ 0.034**
Market Transformation								
Northwest Energy Efficiency Alliance (codes and standards)				21,724,800				
Northwest Energy Efficiency Alliance (other initiatives)				3,241,200				
Northwest Energy Efficiency Alliance Totals[3]		**$ 2,500,165**	**$ 2,500,165**	**24,966,000**				
Other Programs and Activities								
Residential								
Home Improvement Program		2,926	2,926					
Residential Energy Efficiency Education Initiative		172,215	172,215					
Commercial								
Oregon Commercial Audits	0 audits	1,473	1,473					
Other								
Energy Efficiency Direct Program Overhead		1,801,955	1,801,955					
Total Program Direct Expense		**$ 42,926,872**	**$ 75,797,483**	**183,377,834**	**359**			
Indirect Program Expenses		1,335,208	1,335,208					
Total DSM Expense		**$ 44,262,080**	**$ 77,132,691**					

[a] Levelized Costs are based on financial inputs from Idaho Power's 2015 IRP and calculations include line-loss adjusted energy savings.

[b] The Utility Cost is the cost incurred by Idaho Power to implement and manage a DSM program.

[c] The Total Resource Cost is the total expenditures for a DSM program from the point of view of Idaho Power and its customers as a whole.

[d] Demand response program reductions are reported with 9.7-percent peak loss assumptions.

[1] Peak Demand is the peak performance of each respective program and not combined performance on the actual system peak hour.

[2] Expenses are contained in Educational Distributions expenses in Appendix 2.

[3] Savings are preliminary estimates provided by NEEA. Final savings for 2018 will be provided by NEEA May 2019.

Appendix 4. 2018 DSM program activity by state jurisdiction

Program	Idaho Participants	Idaho Utility Costs	Idaho Demand Reduction (MW)/ Annual Energy Savings (kWh)	Oregon Participants	Oregon Utility Costs	Oregon Demand Reduction (MW)/ Annual Energy Savings (kWh)
Demand Response[1]						
A/C Cool Credit	25,845 homes	$ 807,944	29	337 homes	$ 36,425	0.4
Flex Peak Program	131 sites	368,997	31	9 sites	64,316	2
Irrigation Peak Rewards	2,285 service points	6,710,235	288	50 service points	181,502	9
Total		**$ 7,887,176**	**347**		**$ $282,243**	**12**
Energy Efficiency						
Residential						
Easy Savings: Low-Income Energy Efficiency Education	282 HVAC tune-ups	147,936	29,610	n/a		
Educational Distributions	92,996 kits/giveaways	3,112,970	15,577,291	1,721 kits/giveaways	67,409	474,596
Energy Efficient Lighting	1,291,893 lightbulbs	2,343,127	18,170,017	48,949 lightbulbs	92,003	686,916
Energy House Calls	251 homes	146,712	337,715	29 homes	14,065	36,769
Fridge and Freezer Recycling Program	298 refrigerators/freezers	33,172	71,578	6 refrigerators/freezers	735	2,025
Heating & Cooling Efficiency Program	697 projects	565,780	1,521,832	15 projects	19,431	34,234
Home Energy Audit	466 audits	264,394	211,003	n/a		
Home Energy Report Pilot Program	23,914 treatment size	194,812	3,281,780	n/a		
Multifamily Energy Savings Program [3]	25 projects	205,131	655,953	0 projects		
Oregon Residential Weatherization	n/a			5 audits	5,507	
Rebate Advantage	73 homes	105,770	205,182	34 homes	41,714	79,377
Residential New Construction Pilot	307 homes	400,910	777,369	n/a	2	
Shade Tree Project	2,093 trees	162,995	35,571	n/a		
Simple Steps, Smart Savings™	7,226 appliances/showerheads	86,721	234,664	151 appliances/showerheads	3,762	6,551
Weatherization Assistance for Qualified Customers	190 homes/non-profits	1,254,630	641,619	3 homes/non-profits	18,344	7,886
Weatherization Solutions for Eligible Customers	141 homes	1,022,471	571,741	n/a		
Sector Total		**$ 10,047,532**	**42,322,925**		**$ 262,971**	**1,328,353**
Commercial						
Commercial Energy-Saving Kits	1,621 kits	144,436	433,961	31 kits	1,738	8,209
Custom Projects	238 projects	8,412,044	45,663,289	10 projects	396,468	1,300,401
Green Motors—Industrial	25 motor rewinds		64,167	0 motor rewinds		
New Construction	99 projects	2,004,058	13,092,349	5 projects	65,587	285,966
Retrofits	1,322 projects	5,732,650	33,483,180	36 projects	257,529	1,427,527
Sector Total		**$ 16,293,187**	**92,736,946**		**$ 721,322**	**3,022,103**

Program	Idaho Participants	Idaho Utility Costs	Idaho Demand Reduction (MW)/ Annual Energy Savings (kWh)	Oregon Participants	Oregon Utility Costs	Oregon Demand Reduction (MW)/ Annual Energy Savings (kWh)
Irrigation						
Green Motors—Irrigation	26 motor rewinds		67,676	0 motor rewind		
Irrigation Efficiency Rewards	971 projects	$ 2,717,884	18,000,390	51 projects	$ 235,822	933,441
Sector Total		**$ 2,717,884**	**18,068,066**		**$ 235,822**	**933,441**
Market Transformation						
Northwest Energy Efficiency Alliance (codes and standards)			20,638,560			1,086,240
Northwest Energy Efficiency Alliance (other initiatives)			3,079,140			162,060
Northwest Energy Efficiency Alliance[2]		**$ 2,375,157**	**23,717,700**		**$ 125,008**	**1,248,300**
Other Programs and Activities						
Residential						
Home Improvement Program		2,926				
Residential Energy Efficiency Education Initiative		163,255			8,961	
Commercial						
Oregon Commercial Audits					1,473	
Other						
Energy Efficiency Direct Program Overhead		1,712,887			89,069	
Total Program Direct Expense		**$ 41,200,004**			**$ 1,726,868**	
Indirect Program Expenses		1,273,608			61,600	
Total Annual Savings			**176,845,637**			**6,532,197**
Total DSM Expense		**$ 42,473,612**			**$ 1,788,468**	

[1] Peak Demand is the peak performance of each respective program and not combined performance on the actual system peak hour.

[2] Savings are preliminary estimates provided by NEEA. Final savings for 2018 will be provided by NEEA May 2019.

[3] Idaho Rider charges of $13,264 were reversed and charged to the Oregon Rider in March 2019. Oregon savings should have been 67,270 kWh.