

DEMAND-SIDE MANAGEMENT

2019

Annual Report



MARCH 15 • 2020

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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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.

Idaho Power's portfolio of energy efficiency program savings remains strong in 2019 with the highest savings since the Idaho Energy Efficiency Rider (Idaho Rider) began in 2002. The 2019 savings of 203,041 MWh, including the estimated savings from the Northwest Energy Efficiency Alliance (NEEA), increased by 18,963 MWh compared to the 2018 savings of 184,079 MWh—a 10% year-over-year increase. The savings from Idaho Power's energy efficiency programs alone, excluding NEEA savings, was 184,934 MWh in 2019 and 158,412 MWh in 2018—a 17% year-over-year increase. The commercial and industrial sector savings increased by over 40% compared to 2018. The 2019 savings represent enough energy to power almost 18,000 average homes in Idaho Power's service area for one year.

In 2019, 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 2.12 and 2.72, respectively. The portfolio was also cost-effective from the participant cost test (PCT) ratio, which was 2.79.

Idaho Power successfully operated all three of its demand response programs in 2019. The total demand response capacity from the company's programs was 397 megawatts (MW) with actual load reduction of 333 MW. Energy efficiency and demand response are important aspects of Idaho Power's resource planning process and were included in the 2019 IRP.

Total expenditures from all funding sources of demand-side management (DSM) activities were \$48.6 million in 2019—\$38.1 million from the Idaho Rider, \$8.7 million from Idaho Power base rates, and \$1.8 million from the Oregon Rider. DSM program funding comes from the Idaho and Oregon Riders, Idaho Power base rates, and the annual power cost adjustment (PCA).

In 2019, Idaho Power launched a Small Business Direct Install program (SBDI) targeting typically hard-to-reach small business customers. The SBDI is expected to be a three-year program and offered to eligible customers using a strategic geo-targeted approach. Idaho Power pays 100% of the cost for the installation of eligible measures to customers that have an annual kWh usage of 25,000 or less.

To educate residential customers on energy savings related to energy-efficient behavior, Idaho Power produced two *Energy Efficiency Guides* in 2019 with information on energy efficiency equipment and ways to use energy wisely. These guides were inserted in 17 newspapers and delivered to over 183,000 homes. They were also used at various events and are available online. The company participated in 98 outreach activities across its service area, including home and garden shows and remodeling and design shows. Idaho Power's education outreach energy advisors (EOEA) gave over 100 presentations of *The Power to Make a Difference* and *Saving a World Full of Energy* to over 2,800 students.

Idaho Power provides financial support to the Integrated Design Lab (IDL), which conducted Lunch & Learn sessions to educate architects, engineers, and other design and construction professionals about energy efficiency topics. In 2019, the IDL scheduled 20 technical trainings throughout the service area

for 157 architects, engineers, designers, project managers, and others interested parties. The IDL also maintains a Tool Loan Library (TLL) with tools for measuring and monitoring energy use and provides training on how to use them. The library includes 900 pieces of equipment, adding 49 new tools in 2019.

Idaho Power continued to provide training to its commercial and industrial customers in 2019, delivering eight days of technical classroom-based training sessions to 211 attendees in different cities in its service area.

Idaho Power provided 10 workshops promoting the Irrigation Efficiency Rewards program during the year. Approximately 200 customers attended the workshops in American Falls, Blackfoot, Caldwell, Eden, Gooding, Leadore, Mountain Home, Parma, Picabo, and Salmon. The company participated in and had exhibits at regional agricultural trade shows, including the Idaho Irrigation Equipment Association Winter Show, Eastern Idaho Agriculture Expo, Western Idaho Agriculture Expo, and the Agri Action.

Idaho Power participates in regional energy efficiency activities and provides regional leadership. Todd Greenwell, senior engineer at Idaho Power, is a member of the Consumer Products Steering Committee—a coordinated effort among northwest utilities, NEEA, and other regional energy efficiency organizations established to share strategies to advance energy efficiency in the consumer products market. In 2019, the Consumer Products Steering Committee received NEEA’s Leadership in Energy Efficiency Award for Collaboration (Figure 1).



Figure 1. Theresa Drake, Customer Relations & Energy Efficiency Senior Manager, and Todd Greenwell, Senior Engineer, receiving NEEA’s Leadership in Energy Efficiency Award for Collaboration

This *Demand Side Management 2019 Annual Report* provides a review of the company’s DSM activities and finances throughout 2019 and outlines Idaho Power’s plans for future DSM activities. This report satisfies the reporting requirements set out in 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 UM 1710.

INTRODUCTION

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

In 2019, 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 how to participate in programs.

This report focuses on Idaho Power's demand-side management (DSM) activities and results for 2019 and previews planned activities for 2020. The appendices provide detailed information on the company's DSM activities and detailed financial information for 2019. *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 2019.

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 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 570,000 customers throughout a 24,000-square-mile area in southern Idaho and eastern Oregon.



Figure 2. 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 seasonal contests, the School Cohort, and the Home Energy Report (HER) Pilot Program 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. Idaho Power shapes these savings based on the end use to estimate energy reduction at specific times of the day and year. The company’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 Energy Efficiency 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 \$48.6 million in 2019 (Figure 3).

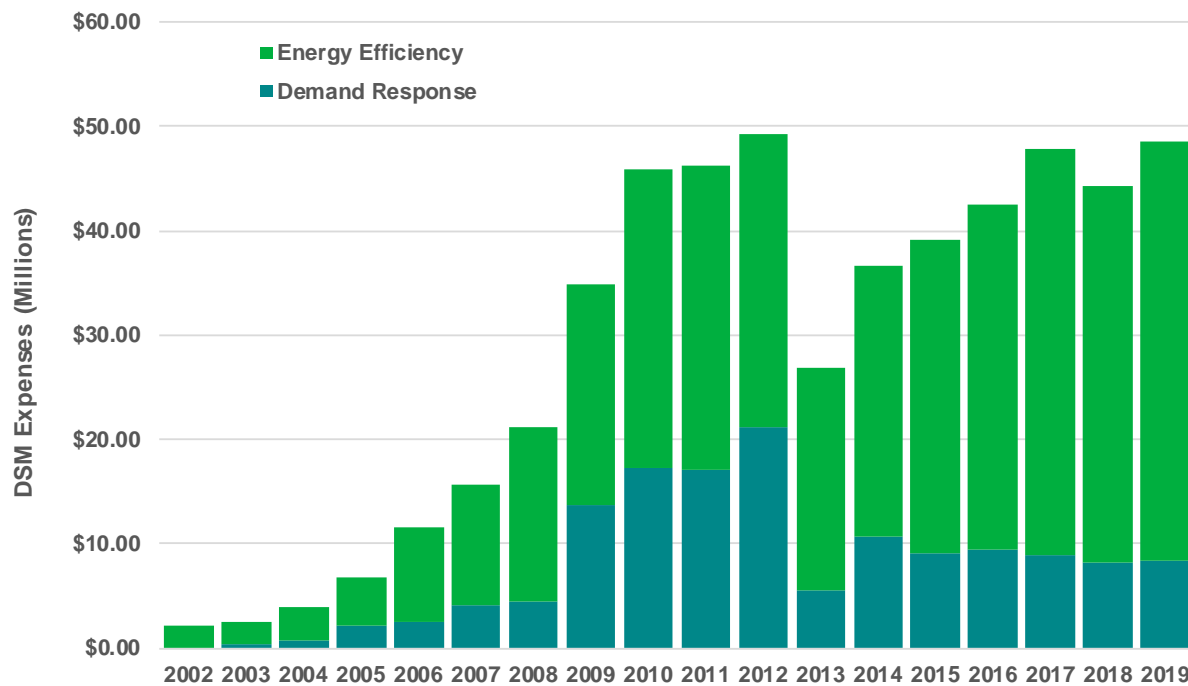


Figure 3. DSM expense history by program type, 2002–2019 (millions [\$])

Idaho Power started its modern demand response programs in 2002, and now has over 11% 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.

DSM Program Performance

Idaho Power’s portfolio of energy efficiency program energy savings remains strong in 2019 with the highest savings since the Idaho Rider began in 2002. The 2019 savings including the estimated savings from the Northwest Energy Efficiency Alliance (NEEA), increased by 18,962 MWh compared to the 2018 savings of 184,079 MWh—a 10.3% year-over-year increase. The 2019 savings represent enough energy to power almost 18,000 average homes in Idaho Power’s service area for one year. The savings from Idaho Power’s energy efficiency programs alone, excluding NEEA savings, was 184,934 MWh in 2019 and 158,412 MWh in 2018—a 16.7% year-over-year increase (Figure 4).

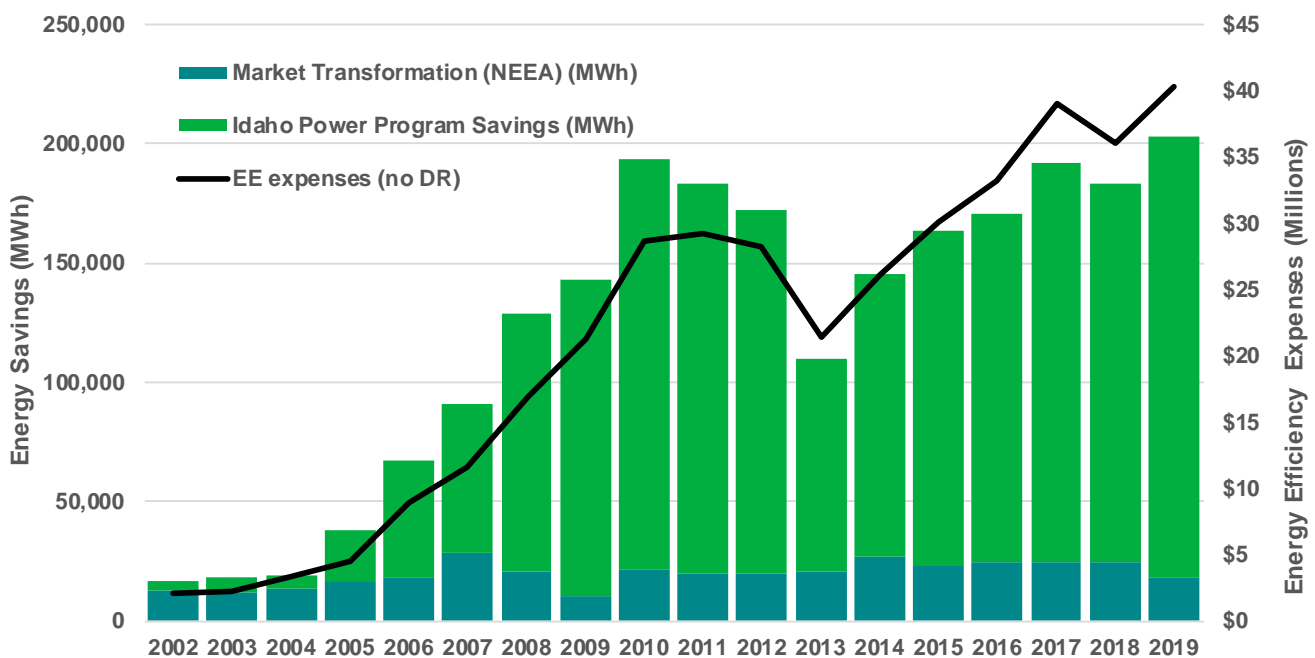


Figure 4. Annual energy savings and energy efficiency program expenses, 2002–2019 (MWh and millions [\$])

The 2019 savings results consisted of 40,380 MWh from the residential sector, 134,435 MWh from the commercial/industrial sector, and 10,118 MWh from the irrigation sector. The Custom Projects option in the Commercial and Industrial (C&I) Energy Efficiency Program contributed 38% of Idaho Power’s direct program savings, while all of the C&I sector programs contributed 73% of the direct program savings. In the residential sector, lighting continued to significantly contribute to program savings with the Energy Efficient Lighting program contributing 40% of the residential savings and Energy Efficient Lighting combined with Educational Distributions contributing 67% of residential savings.

Idaho Power invests significant resources to maintain and improve its energy efficiency and demand response programs. Idaho Power’s 2019 savings was the highest of any year since 2002 and was 5% higher than 2010, the next highest year.

Demand Response

In summer 2019, Idaho Power had a combined maximum actual non-coincidental load reduction from all three programs of 333 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 2019 capacity of demand response programs was 397 MW (Figure 5). The demand response capacity is calculated using the 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 the maximum nominated amount of load 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.

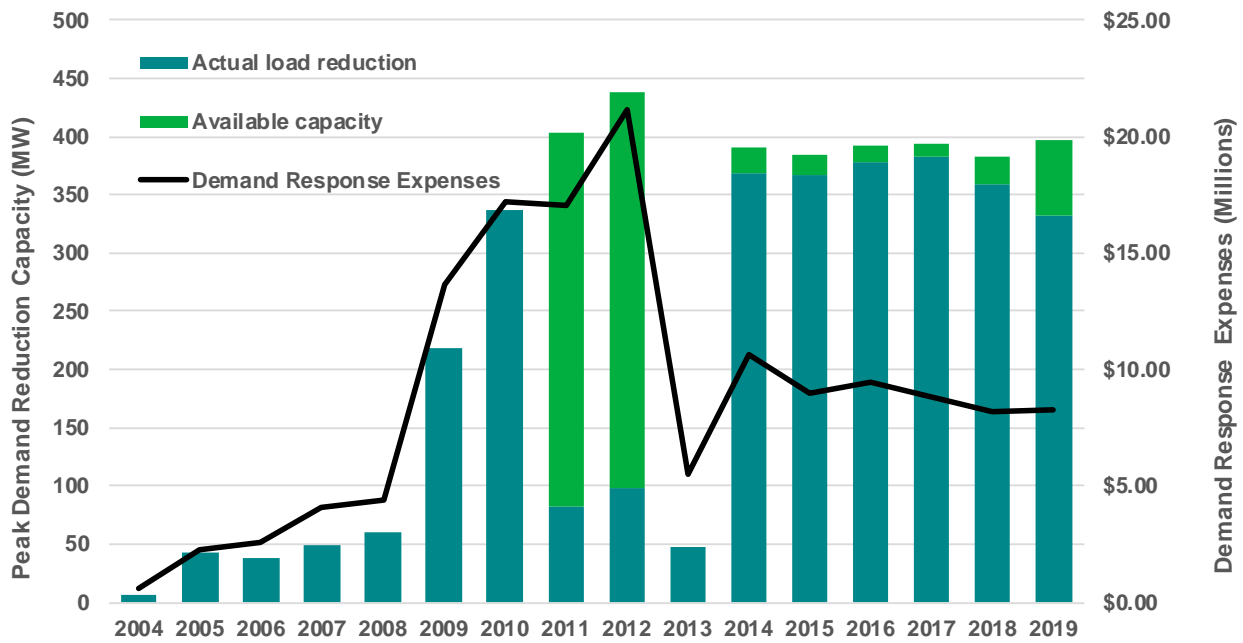


Figure 5. Peak demand-reduction capacity and demand response expenses, 2004–2019 (MW and millions [\$])

Under the terms of the Idaho Public Utilities Commission (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. During the IRP process, the company analyzes if and when expanded demand response capacity is needed to avoid system peak deficiencies.

Energy Efficiency

Table 1. DSM programs by sector, operational type, and location, 2019

Program by Sector	Operational Type	State
Residential		
A/C Cool Credit.....	Demand Response	ID/OR
Easy Savings: Low-Income Energy Efficiency Education	Energy Efficiency	ID
Educational Distributions.....	Energy Efficiency	ID/OR
Home Energy Report Pilot Program.....	Energy Efficiency	ID
Energy Efficient Lighting.....	Energy Efficiency	ID/OR
Energy House Calls.....	Energy Efficiency	ID/OR
Heating & Cooling Efficiency Program.....	Energy Efficiency	ID/OR
Home Energy Audit Program.....	Energy Efficiency	ID
Multifamily Energy Savings Program.....	Energy Efficiency	ID/OR
Oregon Residential Weatherization.....	Energy Efficiency	OR
Rebate Advantage.....	Energy Efficiency	ID/OR
Residential New Construction Pilot Program.....	Energy Efficiency	ID/OR
Shade Tree Project.....	Energy Efficiency	ID
Simple Steps, Smart Savings™.....	Energy Efficiency	ID/OR
Weatherization Assistance for Qualified Customers.....	Energy Efficiency	ID/OR
Weatherization Solutions for Eligible Customers.....	Energy Efficiency	ID
Commercial/Industrial		
Commercial and Industrial Efficiency Program		
Custom Projects.....	Energy Efficiency	ID/OR
Green Motors—Industrial	Energy Efficiency	ID/OR
New Construction.....	Energy Efficiency	ID/OR
Retrofits.....	Energy Efficiency	ID/OR
Commercial Energy-Saving Kit.....	Energy Efficiency	ID/OR
Flex Peak Program.....	Demand Response	ID/OR
Oregon Commercial Audits.....	Energy Efficiency	OR
Irrigation		
Irrigation Efficiency Rewards.....	Energy Efficiency	ID/OR
Green Motors—Irrigation.....	Energy Efficiency	ID/OR
Irrigation Peak Rewards.....	Demand Response	ID/OR
All Sectors		
Northwest Energy Efficiency Alliance.....	Market Transformation	ID/OR

Table 2. DSM programs by sector summary and energy usage/savings/demand reduction, 2019

	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	\$ 9,572,244	40,380,026		5,298,959	36%	471,298
Commercial/Industrial	21,871,350	134,435,489		7,526,301	52%	72,460
Irrigation	2,661,263	10,118,160		1,759,137	12%	20,210
Market Transformation	2,721,070	18,107,684				
Demand Response	8,276,196	n/a	333			
Direct Overhead/ Other Programs.....	2,287,933	n/a				
Total Direct Program Expenses	\$ 47,390,056	203,041,359	333	14,584,397	100%	563,967

^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% peak line loss assumptions.

Customer Education

Idaho Power also conducts many activities that do not have any reported savings but are intended to educate customers on energy efficiency and encourage energy-efficient behavior. For residential customers, Idaho Power produced two *Energy Efficiency Guides* in 2019, which promote energy savings by providing information on energy efficiency equipment and ways to use energy wisely. These guides were inserted in 17 newspapers and delivered to over 183,000 homes. They were also used at various events and are available online. The company participated in 98 outreach activities across its service area, including home and garden shows and remodeling and design shows. Idaho Power's education outreach energy advisors (EOEA) gave over 100 presentations of *The Power to Make a Difference* and *Saving a World Full of Energy* to over 2,800 students.

Idaho Power supports the Integrated Design Lab (IDL), which conducted Lunch & Learn sessions to educate architects, engineers, and other design and construction professionals about energy efficiency topics. In 2019, the IDL scheduled 20 technical trainings throughout service area and 157 architects, engineers, designers, project managers, and other interested parties attended. The IDL also maintains a Tool Loan Library (TLL) with tools for measuring and monitoring energy use and provides training on how to use them. The TLL includes 900 pieces of equipment, with 49 new tools added in 2019.

Idaho Power continued to provide training to its commercial and industrial customers in 2019, delivering eight days of technical classroom-based training sessions to 211 attendees in different cities in Idaho Power's service area.

In 2019, Idaho Power provided 10 workshops promoting the Irrigation Efficiency Rewards program. Approximately 200 customers attended the workshops in American Falls, Blackfoot, Caldwell, Eden, Gooding, Leadore, Mountain Home, Parma, Picabo, and Salmon. The company participated in and had exhibits at regional agricultural trade shows, including the Idaho Irrigation Equipment Association Winter Show, Eastern Idaho Agriculture Expo, Western Idaho Agriculture Expo, and Agri-Action.

Surveying Customer Satisfaction

Relationship surveys measure 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 2019 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-nine percent of customers indicated their needs were met or exceeded by Idaho Power encouraging energy efficiency among its customers. Figure 6 depicts the percentage of customers who indicated Idaho Power met or exceeded their needs concerning the energy efficiency efforts it encouraged each year since 2009.

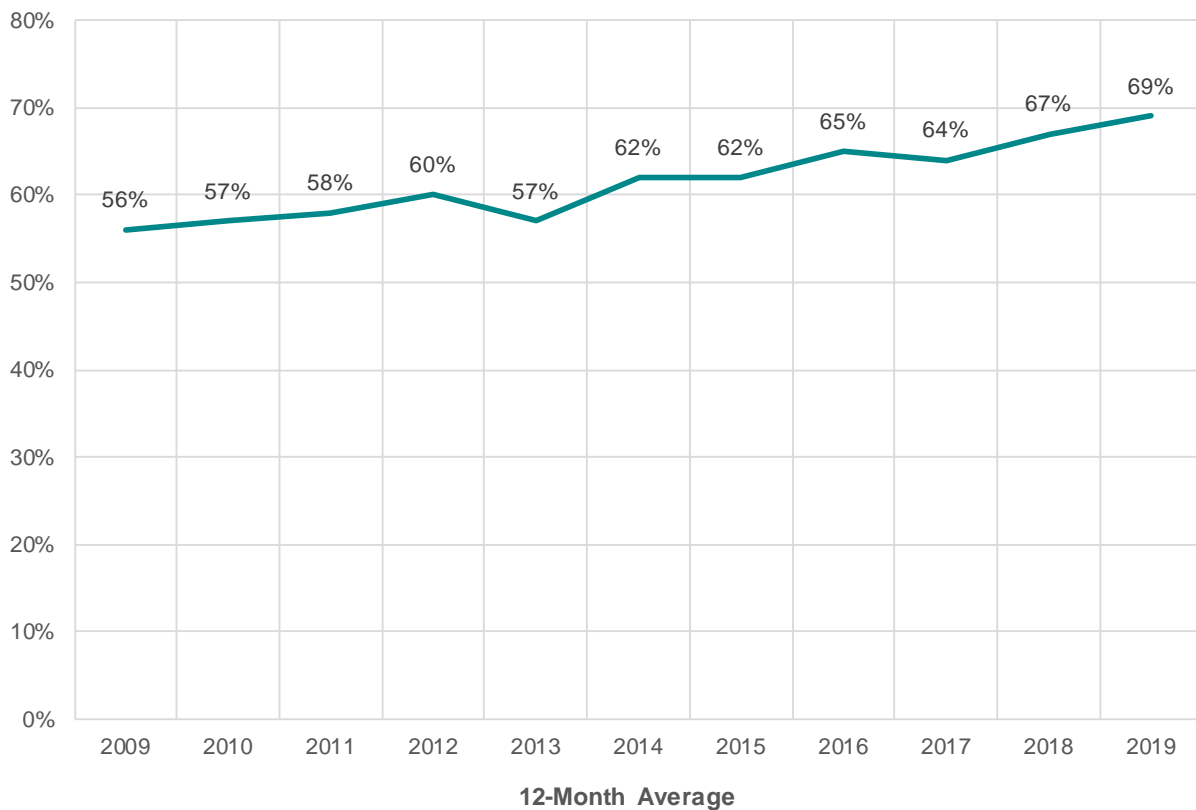


Figure 6. Customers’ needs “met” or “exceeded” (%), 2009–2019

The 2019 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 2019, 42% of the survey respondents across all sectors indicated they participated in at least one Idaho Power energy efficiency program, and 90% 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 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 and research to continuously refine its DSM programs.

For a summary of evaluation results, recommendations, and responses, see each program section. For copies of 2019 program evaluation reports and the evaluation schedule, 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. Prior to the actual implementation of energy efficiency, Idaho Power performs a cost-effectiveness analysis to assess whether a potential program design or measure will be cost-effective. 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. In 2020, Idaho Power will begin transitioning to using the UCT as the primary cost-effectiveness test for energy efficiency resource planning as directed by the IPUC in Order No. 34503. The company plans to continue to calculate the TRC and PCT because each perspective can help inform the company and stakeholders about a particular program or measure's effectiveness.

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 an existing 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 continues to be offered, the company must demonstrate 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, 2017, and 2019 (amended) IRPs to be \$18.5, \$19.8, and \$19.6 million, respectively.

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 2019, the cost of operating the three demand response programs was \$8.3 million. Idaho Power estimates that if the three programs were dispatched for the full 60 hours, the total costs would have been approximately \$11.5 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 2019, four EEAG meetings and one webinar were held. The meetings were on January 23, May 1, August 8, and November 13 and the webinar was on February 6. 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 how changes in the IRP will impact DSM alternate costs, which Idaho Power uses in calculating cost-effectiveness. In each meeting, Idaho Power requests input and feedback from EEAG members on several topics, including programmatic changes, marketing tactics, and incentive levels. EEAG often recommends presentation ideas for future meetings.

Throughout 2019, Idaho Power relied on input from EEAG on the following important topics.

Irrigation Efficiency Rewards Program

Throughout 2019, Idaho Power discussed the measure savings of the Irrigation Efficiency Rewards program. The RTF updated the savings from irrigation measures in 2018, reducing the savings potential from these measures. In late 2018, Idaho Power proposed to EEAG that it would use its adjusted savings numbers for 2019 and convene a workgroup to explore options. Based on feedback at the meeting, the company decided to accept the new RTF savings numbers. When the RTF updated the savings, they did not have an irrigation workgroup, consequently in 2019, the RTF formed an irrigation workgroup in which Idaho Power participated to further investigate the new RTF savings.

Heating & Cooling Efficiency Program—Smart Thermostats

The company discussed with EEAG the conditions around a customer receiving an incentive for a smart thermostat. Originally, to qualify for the smart thermostat incentive, a licensed contractor had to install the thermostat in a customer's home. Idaho Power sought EEAG's input on changing the contractor requirement. Most members of EEAG were in favor of removing the contractor install requirement, even after acknowledging the possible difficulties with installing them on a heat pump. The company made program changes to the Heating & Cooling Efficiency Program on January 1, 2020, including removing the contractor install requirement. See the Heating & Cooling Efficiency Program section for more details.

Residential New Construction Pilot Program

The company explained to EEAG that the methodology used to calculate how much more efficient a home was than a home built to code was changing and discussed how that might negatively impact future participation. The company asked for feedback on program options, and EEAG supported a tiered incentive approach to mitigate potential negative impacts on participation. As a result, in the first quarter of 2020, the company made program changes to the Residential New Construction Pilot Program and implemented a three-tiered incentive offering structure.

Residential Direct Install Programs

Idaho Power continues to explore additional cost-effective measures to add to the company's residential direct-install programs. During an EEAG meeting, a member asked Idaho Power to research additional

weatherization measures, specifically door sweeps, as a potential measure in its direct-install programs. Idaho Power researched several technical reference manuals for other utilities and found some preliminary data indicating that door sweeps had potential; however, savings were difficult to determine for Idaho Power's specific climate zone and appeared to be specific to single-family homes. Idaho Power requested the RTF to review this measure as a small saver and it is part of the RTF's workplan for 2020. Depending on the results from the RTF, Idaho Power may incorporate door sweeps in its residential direct-install programs.

Input on Idaho Power's Demand-Side Management Annual Report

The May EEAG meeting included a discussion on Idaho Power's Demand-Side Management Annual Report. The company sought input from EEAG on ways to improve the report. After an energetic discussion, EEAG believed the report worked well for regulators and intervenors and should not be dramatically changed. One EEAG member suggested color coding the different sections of the report. As a result, the company color coded the headers, footers, major titles, and tables in the 2019 Program Activities sub-sections as follows: Residential sector (orange), Commercial/Industrial sector (green), Irrigation sector (blue), and Other Programs and Activities section (purple).

Future Plans for DSM Programs

Idaho Power will continue to pursue all prudent cost-effective energy efficiency and the 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. 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.

In 2019, the IPUC issued Order No. 34503 directing Idaho Power to use the UCT for energy efficiency resource planning. In 2020, the company will implement this directive by contracting with a third party to develop a new energy efficiency potential study that will identify measures currently not included in Idaho Power's programs. In 2020, Idaho Power will also update its third-party Commercial/Industrial Technical Reference Manual (TRM) to take into account the International Energy Conservation Code (IECC) 2018 energy codes expected to be in effect January 1, 2021.

The company will continue to research new measures to determine how other utilities or energy providers are implementing them. In 2019, Idaho Power subscribed to the E Source Measure Insights offering. Energy Insights allows Idaho Power to view and search data from other utilities' TRMs from throughout the United States and Canada. The company continuously searches for new measures for its programs through a membership in E Source, participation in the NEEA Regional Emerging Technology Advisory Committee, and from the RTF. Idaho Power representatives also attend national conferences and participate in webinars hosted by organizations interested in advancing energy efficiency savings.

In 2019, Idaho Power transitioned its Program Planning Group (PPG) to be a standing agenda item in its program leader meetings with the goal of assembling smaller teams of subject matter experts when new program ideas or measures are identified through research or staff activities. Idaho Power will continue

to work in consultation with EEAG to expand or modify its energy efficiency portfolio. Future plans for individual programs are included under each programs' 2020 Program and Marketing Strategies section.

Throughout 2019, Idaho Power monitored the government's activities in relation to the next phase of the Energy Independence and Security Act (EISA) and considered how policy changes would affect the company's Energy Efficient Lighting program and several other predominately residential programs.

Signed by President Bush in 2007, EISA called for energy reduction goals "to move the United States toward greater energy independence and security." Title III of the act contained standards for 10 residential appliances and lighting.

The initial 25% greater efficiency goal for general service lightbulbs was phased in between 2012 through 2014. In 2017, the definition of general service was expanded to include A-lamp (pear-shaped bulbs), reflector, candelabra, three-way, and other specialty bulbs. By 2020, all general service lightbulbs were to provide 45 lumens per watt, which is approximately 65% more efficient than the original, pre-EISA incandescent lightbulb. In September 2019, the US Department of Energy (DOE) determined the general service definition did not need to be amended to include bulbs other than the A-lamp and withdrew the 2017 regulation expanding the definition. In December 2019, the DOE's final determination on the EISA 2020 lighting standards eliminated the 45-lumen-per-watt requirement for all residential general service incandescent lightbulbs.

Anticipating the increased standards that were scheduled to go into effect January 1, 2020, Idaho Power considered phasing out its programs that included energy-efficient screw-in bulbs. After the DOE's final determination announcement eliminated this increase in standards, Idaho Power decided to continue these offerings in lighting.

The company uses a third-party vendor in association with Bonneville Power Administration (BPA) for the Energy Efficiency Lighting program, which helps the company realize lower administrative costs. BPA's program is called Simple Steps, Smart Savings™ (Simple Steps). Despite the DOE's final determination to eliminate the 45-lumen-per-watt requirement for incandescent lightbulbs, BPA plans to discontinue its Simple Steps program at the end of 2020 federal fiscal year, September 30, 2020. According to BPA, "...the residential lighting market has transformed; high-efficiency lamps are becoming the norm rather than the exception." Idaho Power has committed to offering the Simple Steps program to customers until BPA discontinues its program. After that time, the company will re-assess its programs that offer energy-efficient screw-in bulbs.

In 2020, 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 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 2019 Annual Report* consists of this main document and two supplements.

The main document contains the following sections related to 2019 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; and 3) four appendices of data related to payments, funding, and program-level costs and savings. Where appropriate, plans for 2020 are also discussed.

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 IDL reports, research and survey reports, evaluation reports, and other reports.

2019 DSM PROGRAM ACTIVITY

DSM Expenditures

Funding for DSM programs in 2019 came from several sources. The Idaho and Oregon Rider funds are collected directly from customers on their monthly bills. From January to May 2019, the Idaho Rider was 3.75% of base revenues. Effective June 1, 2019, pursuant to IPUC Order No. 34345, the percentage decreased to 2.75%. The 2019 Oregon Rider was 4% of base rate revenues. 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.

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 \$48,584,696. 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. 2019 funding source and energy savings

Funding Source	Expenses	MWh Savings
Idaho Rider	\$38,069,980	196,519
Oregon Rider.....	1,766,639	5,873
Idaho Power Base Rates	8,748,078	649
Total	\$48,584,696	203,041

Table 4 and Figure 7 indicate 2019 DSM program expenditures by category. The Materials & Equipment category includes items that directly benefit customers: Energy-Saving Kits (ESK) and LED lightbulbs distributed at customer events (\$2,181,025) and direct-install weatherization measures (\$125,000). The expenses in the Other Expense category include marketing (\$1,556,004), program evaluation (\$156,544), program training (\$122,318), and Custom Projects energy audits (\$302,031). The Purchased Services category includes payments made to NEEA (\$2,721,070) and third-party contractors who help deliver Idaho Power's programs.

Table 4. 2019 DSM program expenditures by category

Program Expenditure Category	Total	% of Total
Incentive Expense.....	\$29,102,502	60%
Labor/Administrative Expense.....	3,930,235	7%
Materials & Equipment.....	2,364,278	5%
Other Expense	2,208,470	5%
Purchased Services	10,979,212	23%
Total Incentive Expense	\$48,584,696	100%

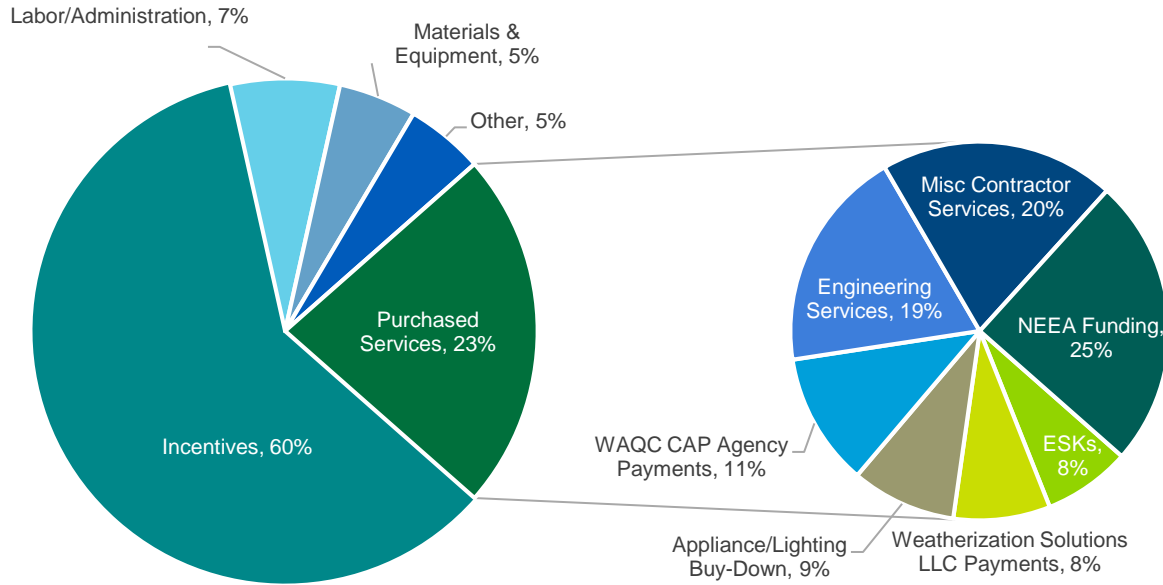


Figure 7. 2019 DSM program expenditures by category

Table 5. 2019 DSM program incentive totals by program type and sector

Program Type—Sector	Total	% of Total
DR ^a —Residential	\$355,456	1%
DR—Commercial/Industrial.....	547,527	2%
DR—Irrigation	6,517,242	22%
EE ^b —Residential.....	1,946,664	7%
EE—Commercial/Industrial	17,470,340	60%
EE—Irrigation.....	2,265,273	8%
Total Incentive Expense	\$29,102,502	100%

^a DR = demand response

^b EE = energy efficiency

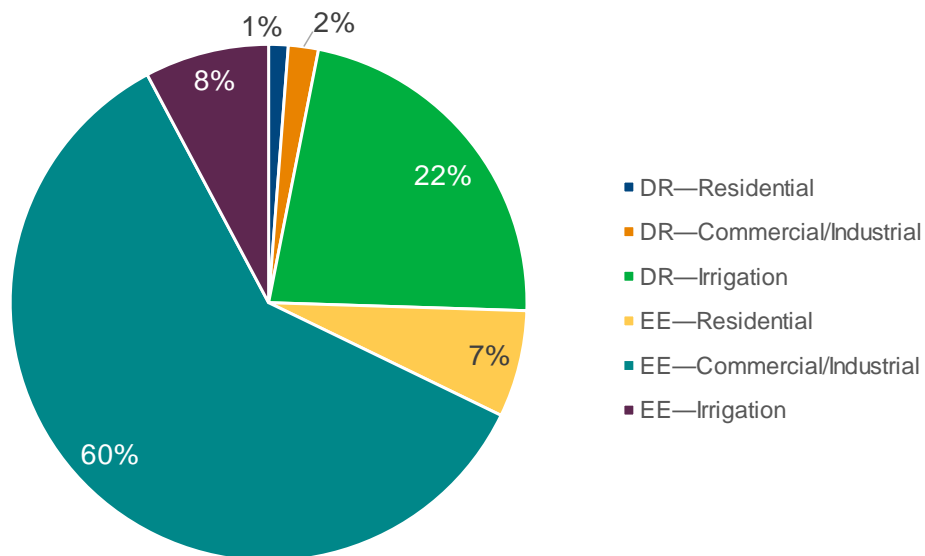


Figure 8. Percent of DSM program incentive expenses by program type and sector, 2019

Marketing

Idaho Power used multi-channel marketing and public relations strategies in 2019 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. In 2019, the company introduced a new campaign featuring Energy Advisor Joulie and her pet dog Wattson.

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 23% of the company's total social media content promoted energy efficiency in 2019. 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 Shade Tree. For the first time, Idaho Power's Facebook page hosted two customer sweepstakes giveaways encouraging customers to enter by leaving a comment about how they save energy in the summer or winter.



Figure 9. No Pressure Holiday Savings Sweepstakes Twitter post

In 2019, Idaho Power updated its strategy for providing Facebook and Twitter followers with quick energy efficiency tips by focusing on ways to save in different seasons, for holidays, and during home events, like preparing Thanksgiving dinner. Rather than provide one tip at a time, each post included three or four tips each and was paired with a thematic graphic of Wattson from the residential energy efficiency campaign. Consistently using Wattson was a quick and easy way for followers to recognize the content as energy efficiency related. When timely and appropriate, past #TipTuesday content was repurposed and shared, as well.



Figure 10. Social media posts for holiday-related energy-saving tips

Idaho Power's Facebook followers increased 8.5% in 2019, from 19,340 at the end of 2018 to 20,982 at the end of 2019. Facebook remains the company's priority channel for engaging directly with customers, including for outage communications, energy efficiency program offerings, and helping customers with account-related issues through private messages.

Idaho Power uses Twitter to communicate about media items, large outages, company news, and energy efficiency. Idaho Power's Twitter followers increased 3.72% in 2019, from 5,785 followers to 6,000.

Idaho Power again saw a favorable increase in followers on LinkedIn: up 34% from 2018. LinkedIn is a great channel for engaging business and commercial customers in energy efficiency, as well as positioning the company as a good corporate citizen, clean energy leader, and employer of choice.

Website

Idaho Power tracked the number of page views to the main energy efficiency pages—also known as landing pages—from external users on the company's website. In 2019, the company's energy efficiency homepage received 27,159-page views, the residential landing page received 259,489, and the business and irrigation landing pages received 8,681. 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.

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 two markets (KTVB in Boise and KMVT in Twin Falls); news releases; and public events (such as incentive check presentations).

In 2019, the January and July issues of *Connections* were devoted to energy efficiency. The January issue included a variety of tips for being energy efficient at home during the winter. The July edition highlighted the Residential New Construction Pilot Program, how to have the biggest impact on your summer energy bills, and tips for saving energy on summer vacation.

Idaho Power produced a new energy efficiency success story video in 2019 highlighting the new South Meridian YMCA and the energy efficiency efforts they made when building the new facility. The video received more than 700 views on YouTube and an additional 5,653 views on Facebook.

The energy efficiency television segments that aired on stations in Boise and Twin Falls continued to receive positive feedback. Topics included winter energy-saving tips, ESKs, energy-efficient kitchen tips, ways to beat the summer heat, education offerings related to energy efficiency, how to reduce phantom load, and energy efficient holiday cooking and decorating.

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 and summer savings tips, a large incentive check for the Jerome Wastewater Treatment Plant, and holiday lighting tips.

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. Idaho Power continued to work with NEEA to coordinate, collaborate, and facilitate marketing for all sectors.

To build marketing networks and to learn what works in other regions, Idaho Power staff attended the B2B Marketing Exchange Conference in February and the E Source Utility Marketing Executive Council and Forum in September.

2020 Marketing Activities

In 2020, 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 begin using pop-ups in My Account and digital display ads to engage business customers. Additionally, the company will continue to update collateral and displays for irrigation programs and trade shows. See the sector overview sections for more specific marketing plans for the future.

Cost-Effectiveness Results

Table 6. Cost-effectiveness summary by energy efficiency program

Program/Sector	UCT	TRC	Ratepayer Impact Measure (RIM)	PCT
Educational Distributions.....	2.06	3.32	0.49	N/A
Energy Efficient Lighting*	4.04	5.17	0.52	11.72
Energy House Calls*	0.96	1.30	0.34	N/A
Heating & Cooling Efficiency Program	1.56	0.77	0.43	1.48
Multifamily Energy Savings Program	1.15	2.34	0.39	N/A
Rebate Advantage	1.82	1.14	0.39	2.55
Residential New Construction Pilot Program*	1.58	0.83	0.45	1.55
Shade Tree Project.....	1.09	1.16	0.52	N/A
Simple Steps, Smart Savings.....	1.40	5.56	0.43	11.10
Weatherization Assistance for Qualified Customers	0.35	0.43	0.21	N/A
Weatherization Solutions for Eligible Customers.....	0.30	0.43	0.18	N/A
Residential Energy Efficiency Sector	1.90	2.29	0.46	7.76
Commercial and Industrial Energy Efficiency Program				
Custom Projects*	3.62	1.92	1.06	1.73
New Construction*	3.15	2.88	0.77	3.52
Retrofits*	3.68	1.85	0.80	2.12
Commercial Energy-Saving Kits.....	1.57	2.52	0.60	N/A
Commercial/Industrial Energy Efficiency Sector **	3.55	2.01	0.92	2.09
Irrigation Efficiency Rewards.....	2.44	3.13	0.98	3.16
Irrigation Energy Efficiency Sector ***	2.46	3.13	0.98	3.16
Energy Efficiency Portfolio	2.72	2.12	0.76	2.79

* Evaluation costs included in cost-effectiveness ratios.

** 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 programs have been changed significantly. Throughout 2019, 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 online panel—Empowered Community. Results of these studies are included in *Supplement 2: Evaluation*.

The sector-level results of the *2019 Burke Customer Relationship Survey* are available in each sector overview sections of this report: Residential, Commercial and Industrial, and Irrigation.

Evaluations

In 2019, Idaho Power contracted with DNV GL, a global quality assurance and risk management company, to conduct program impact and program process evaluations for the Energy House Calls and Residential New Construction Pilot Program. They also conducted impact evaluations for the Commercial/Industrial Energy Efficiency program: Retrofits and New Construction. Resource Action Programs conducted a program summary analysis for residential ESKs. Aclara conducted a summary analysis for the HER Pilot Program. Further savings estimates analysis was conducted by DNV GL for the Shade Tree Project to better determine potential tree life and mortality rate. Idaho Power contracted with DNV GL to determine the 2019 demand reduction from the A/C Cool Credit program, and the company conducted internal analyses of the 2019 demand response events for Irrigation Peak Rewards and Flex Peak Programs.

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 2019 are provided in *Supplement 2: Evaluation*.

Residential Sector Overview

Idaho Power's residential sector consists of 471,298 customers; Idaho customers number 457,755 and eastern Oregon has 13,543. In 2019, the number of residential sector customers increased by 12,171, an increase of 2.8% from 2018. The residential sector represented 36% of Idaho Power's actual total electricity usage and 46% of overall revenue in 2019.

Table 7 shows a summary of 2019 participants, costs, and savings from the residential energy efficiency programs.

Table 7. Residential sector program summary, 2019

Program	Participants	Total Cost		Savings	
		Utility	Resource	Annual Energy (kWh)	Peak Demand (MW)
Demand Response					
A/C Cool Credit	23,802 homes	\$ 877,665	\$ 877,665		24
Total		\$ 877,665	\$ 877,665		24
Energy Efficiency					
Easy Savings: Low-Income Energy Efficiency Education	430 HVAC tune-ups	\$ 145,494	\$ 145,494	45,150	
Educational Distributions	95,528 kits/giveaways	2,880,467	2,880,467	10,805,474	
Energy Efficient Lighting	1,336,440 lightbulbs	2,126,262	2,782,039	16,245,551	
Energy House Calls	248 homes	161,894	161,894	309,154	
Heating & Cooling Efficiency Program	681 projects	499,179	1,512,183	1,412,343	
Home Energy Audit	421 audits	230,786	282,215	179,754	
Home Energy Report Pilot Program	24,976 treatment size	200,406	200,406	8,444,746	
Multifamily Energy Savings Program	457 units	131,306	131,306	346,107	
Oregon Residential Weatherization	8 audits/projects	5,982	13,992	2,069	
Rebate Advantage	109 homes	156,748	355,897	353,615	
Residential New Construction Pilot Program	322 homes	534,118	1,411,391	774,597	
Shade Tree Project	2,063 trees	147,750	147,750	35,727	
Simple Steps, Smart Savings	5,729 appliances/showerheads	90,499	123,541	271,452	
Weatherization Assistance for Qualified Customers ...	197 homes/non-profits	1,303,727	1,953,490	649,299	
Weatherization Solutions for Eligible Customers	129 homes	957,626	957,626	504,988	
Total		\$ 9,572,244	\$13,059,690	40,380,026	

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.

The campaign used radio, television, newspaper advertisements (ads), digital ads, and Facebook ads and boosted posts aimed at a variety of customer demographics across the service area. New in 2019, the company added Idaho Steelheads game time ads and city bus ads and re-vamped the previous Smart

Saver Pledge contest into two seasonally relevant contests: No Sweat Summer Savings and No Pressure Winter Savings. The contests extended awareness outside the designated campaign months.

The company also updated individual program materials and social media graphics using the new campaign imagery and theme to ensure a consistent look and feel among programs.

Described below are Idaho Power's 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

Idaho Power continued its effort with email communication in 2019. The company emails only those customers who have supplied their addresses for other business purposes (signing up for paperless billing, for example). Energy efficiency promotional emails included cooling tips, Summer and Winter contest promotion, and various program promotions (detailed information can be found in respective program sections).

Digital

During the Spring campaign, web users were exposed to 2,589,431 display ads (image ads embedded on 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 the ads 7,418 times, resulting in a click-through rate of 0.29%. In the fall, the display ads received 2,562,699 impressions and 2,950 clicks, resulting in a click-through rate of 0.12%.

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 748,946 impressions and 191,621 clicks throughout the year.

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 company also used over-the-top (OTT) media. OTT is a type of streaming media that delivers content to customers watching a certain online show. Most OTT providers have their own app or website and are streamed through devices like Roku or Amazon Fire TVs. 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 3,060 times in the Boise, Pocatello, and Twin Falls media markets on network television. The ad reached 87.9% of the Boise target audience, 66.1% of the Twin Falls target audience, and 77.4% of the Pocatello target audience. The targeted customers saw the ad 7.1 times in Boise, 8.5 times in Twin Falls, and 4.5 times in Pocatello. Hulu ads delivered 416,521 completions, meaning the ad was viewed in its entirety. YouTube video ads resulted in 1,979,798 impressions and 461,732 views. OTT ads delivered 429,687 impressions with a 97% video completion rate.

During the fall campaign, the spot ran 1,926 times in the Boise, Pocatello, and Twin Falls media markets. The ads reached 53.1% of the Boise target audience, 46% of the Twin Falls target audience, and 45.4% of the Pocatello target audience. The targeted customers saw the ad 7.2 times in Boise, 8.9 times in Twin Falls, and 4.6 times in Pocatello. Hulu ads received 409,189 completions, and YouTube video ads delivered 1,742,764 impressions and 146,206 views. OTT ads delivered 417,572 impressions with a 97% video completion rate.

Idaho Power also sponsored commercials on Idaho Public Television in Boise, Pocatello, and Twin Falls markets that ran a total of 390 times.

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 5,601 English radio spots. These spots reached 91.8% of the target audience in Boise, 47.1% in Pocatello, and 90.7% in Twin Falls. The target audience in Boise was exposed to the ad 12.9 times, 12.2 times in Pocatello, and 16.8 times in Twin Falls. During the fall campaign, the company ran 6,547 English radio spots. These spots reached 92.1% of the target audience in Boise, 65.2% of the target audience in Pocatello, and 90.4% of the target audience in Twin Falls. The target audience was exposed to the message 10.9 times in Boise, 10.6 times in Pocatello, and 15.5 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 and targeted to adults age 25 to 54. These ads ran 793 times in the spring and 762 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 989,684 impressions and 107 clicks to the Idaho Power residential energy efficiency web page. The fall ads yielded 990,992 impressions and 77 clicks.

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, *Boise and Meridian Lifestyle Magazine*, *IdaHome Magazine*, and *Sun Valley Magazine*. As part of the print campaign, digital "homepage takeover" ads were featured on KTVB.com and Idahostatesman.com. Homepage takeover ads fill a homepage with ads from one company for a specific timeframe. The spring ads highlighted individual energy efficiency program options and tips, such as adjusting your thermostat and the benefits of planting a shade tree.

In 2019, Idaho Power updated the design and program information in a spiral-bound guide outlining each of the residential energy efficiency programs, tips, and resources. The updated design will be

included in the 2020 Welcome Kits and handed out at various events. The previous edition of the guide was included in 2019 Welcome Kits, 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; FitOneSM 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 356,890 impressions and received 3,997 link clicks during the spring energy efficiency campaign. During the fall campaign, Facebook ads and boosts averaged 428,804 impressions and resulted in 5,830 link clicks. This year, Idaho Power changed the placement of Facebook ads to fall only within select ad locations on Facebook and Instagram, rather than in all markets controlled by Facebook, which includes partner page placement. This prevented the ads from being duplicated on digital channels where campaign ads were already placed. Idaho Power believes this method to be less redundant for ad placement and better reflects how many customers the ads actually reach.

Throughout the year, Idaho Power used Facebook posts and boosted posts for various programs.

Out-of-Home

In 2019, Idaho Power participated in several new tactics referred to as out-of-home advertising. Out-of-home advertising attempts to reach customers when they are outside of their homes. The new tactics were a way to continually maintain energy efficiency program awareness through the year. Tactics included an Idaho Steelheads (Boise's hockey team) Sponsorship and full-side bus wraps on three ValleyRide busses. The Steelheads sponsorship included two illuminated panels at CenturyLink Arena and various public service announcements during game times and intermissions, along with postings on the website. The sponsorship ran February through December and yielded 603,144 impressions. The three bus ads yielded 8,307,684 impressions from April through December and received many positive comments.

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 No Sweat Summer Savings and No Pressure Winter Savings Sweepstakes in *News Briefs*.

See the Program Activity section and the Commercial and Industrial Sector Overview for more 2019 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 over 2,300 actively engaged members from across Idaho Power's service area. On average, Idaho Power sends one survey per month to active members. In 2019, Idaho Power

included 11 energy efficiency messages with survey invitations to members resulting in almost 15,900 touchpoints.

A February bill insert promoted Idaho Power's Empowered Community, which is often surveyed on a variety of topics. Some related to energy efficiency were 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.

Seasonal Sweepstakes

In 2019, Idaho Power ran two seasonally focused energy efficiency sweepstakes—the No Sweat Summer Savings Sweepstakes in July and the No Pressure Winter Savings Sweepstakes in December. Both sweepstakes aimed to maintain awareness about energy efficiency and the impact a small change can make.

The summer sweepstakes ran July 29 through August 7 and received 2,694 entries. Customers were asked to comment—through social media or on the Idaho Power website—with a way they saved energy during the hot summer months. In return, participants were entered to win a 60" ENERGY STAR® TV. The sweepstakes was promoted with email messaging to 178,851 customers, and paid social media posts reached 76,544 customers, receiving 4,280 post engagements (likes, comments, shares). The sweepstakes was also featured in a *News Scans* article to employees and a *News Briefs* blurb to media outlets.

The winter sweepstakes ran December 4 through 13 and received 2,671 entries. Customers were asked to comment—through social media or on the Idaho Power website—with a way they saved energy during the cold winter months. In return, participants were entered to win one of 10 Instant Pot® brand pressure cookers. The sweepstakes was promoted with email messaging to 178,870 customers, and paid social media posts reached 31,554 customers, receiving 1,403 post engagements. The sweepstakes was also featured in a *News Scans* article to employees, a *News Briefs* blurb to media outlets, and promoted on the company's homepage.

Customer Satisfaction

Idaho Power conducts the Burke Customer Relationship Survey each year. In 2019, 62% of residential survey respondents indicated Idaho Power is meeting or exceeding their needs with information on how to use energy wisely and efficiently.

Sixty-seven 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 38% 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, 82% are "very" or "somewhat" satisfied with the program.

Based on surveys conducted in the last six months of 2018 and the first six months of 2019, Idaho Power ranked second out of 16 utilities included in the west region midsize segment of the *J.D. Power and*

Associates 2019 Electric Utility Residential Customer Satisfaction Study. Fifty-three 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

	2019	2018
Participation and Savings		
Participants (homes)	23,802	26,182
Energy Savings (kWh)	n/a	n/a
Demand Reduction (MW)	24	29
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	\$495,703	\$433,659
Oregon Energy Efficiency Rider	\$30,762	\$36,425
Idaho Power Funds	\$351,200	\$374,285
Total Program Costs—All Sources	\$877,665	\$844,369
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 the A/C unit will be turned off by the switch. For instance, with a 55% cycling rate, the switch will cycle the A/C unit off for about 33 (nonconsecutive) minutes of each hour. Idaho Power tracks the communication levels to validate whether the signal reaches the switches. Switch communication may be interrupted for a variety of reasons: 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.

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

At the end of the season, Idaho Power or a third-party evaluates the events to determine peak demand savings.

Program Activities

In 2019, about 24,000 customers participated in the program. Three cycling events occurred, and all were successfully deployed (Table 8). The cycling rate was 55% and the communication level exceeded 90% for each event. The incentive is \$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	Friday, July 12	Monday, July 22	Tuesday, August 6
Event time	4–7 p.m.	4–7 p.m.	4–7 p.m.
Average temperature	99°F	102°F	101°F
Maximum load reduction (MW)	23.55	14.88	18.16

As discussed in 2018 EEAG meetings, some devices consistently do not communicate. The company developed a plan for addressing these non-communicating devices which EEAG supported. In 2019, Idaho Power’s contractor began making additional visits to these identified sites and undertook additional efforts to improve communications, such as verifying that the current switch was installed; verifying the A/C unit was functional, powered up, and actually used; and replacing the switch with a tested and programmed switch, if necessary. These additional visits increased the cost of the program for the 2019 program year. This is an ongoing process to improve communication level.

Marketing Activities

Per the settlement agreement reached in Idaho Case No. IPC-E-13-14 and Oregon Case UM 1653, Idaho Power did not actively market the A/C Cool Credit program in 2019.

Before the cycling season began, Idaho Power sent current participants a postcard to remind 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. Participating customers received a thank you and a credit reminder message on their summer bills. 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 Idaho Power’s demand response programs were cost-effective for 2019.

The A/C Cool Credit program was dispatched for three events (totaling nine event hours) and achieved a maximum demand reduction of 23.55 MW. The total expense for 2019 was \$877,665 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

In 2019, Idaho Power retained DNV GL to evaluate the demand reduction over the course of the three events days. The demand reduction was calculated by comparing the actual average load for participating customers on each of three event days to the corresponding baseline. The baseline is estimated by averaging the three non-event week days with the highest usage, out of the 10 non-event week days prior to an event. The baseline is then adjusted to match the event day in the hour before the start of the event.

The first event on July 12 achieved the highest peak demand reduction of 0.90 kilowatt (kW) per participant for a total peak reduction of 23.55 MW with line losses.

The complete report is available in *Supplement 2: Evaluation*.

2020 Program and Marketing Strategies

Idaho Power does not anticipate any program changes in 2020.

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. The company will continue 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

	2019	2018
Participation and Savings		
Participants (coupons)	430	282
Energy Savings (kWh)	45,150	29,610
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	\$145,494	\$147,936
Total Program Costs—All Sources	\$145,494	\$147,936
Program Levelized Costs		
Utility Levelized Cost (\$/kWh)	\$0.885	\$1.37
Total Resource Levelized Cost (\$/kWh)	\$0.885	\$1.37
Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	n/a	n/a
Total Resource Benefit/Cost Ratio	n/a	n/a

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 ESKs and corresponding educational materials to participants of the DOE's 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 initially reimbursed up to \$300 per redeemed coupon.

Though this report discusses most other residential 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, 2019, 430 coupons were redeemed by customers for heating system tune-ups. Of the \$125,000 Idaho Power allotted to CAP agencies for this pilot, approximately \$107,000 was paid to HVAC contractors for their service. One CAP agency that had not spent its total allotment for the year purchased additional furnace filters, and a small amount of funds were transferred between agencies to serve Idaho Power customers who would benefit from equipment tune-up and education.

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 the original \$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 through September 30, 2019.

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

Because the Easy Savings program is primarily an educational and marketing program, the company does not apply traditional cost-effectiveness tests to it.

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. In 2020, the program will claim 68.57 kWh in savings, which is based on a simple average of the single-family and manufactured home tune-ups from the 2018 energy efficiency potential study.

Customer Satisfaction

Information and comments gathered from the 2018–2019 customer survey show most of the coupons were redeemed by customers during the month of August followed by September and October. November, December, and June had the lowest redemption rate.

Of the 91 surveys returned to CAPAI, 79 customers reported the contractor demonstrated how to safely change filters. Sixty-four customers reported 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. Seventy-six respondents pledged to change furnace filters as recommended and 37 described other changes they made based on program recommendations.

Eighty participants reported they were very satisfied with the program, and six were somewhat satisfied.

2019–2020 Program and Marketing Strategies

The planning committee and participating regional HVAC contractors agreed to support the Easy Savings program a third year as an actual energy efficiency program with these improvements:

1. Increase the maximum dollar amount available to contractors per customer visit to \$700 when 12 filters are left with customer. 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 the Easy Savings program to reach more customers, provide interim assistance while customers wait for weatherization, and help extend the life of HVAC equipment previously installed with or without weatherization program funding.

In November 2019, a new coupon design was distributed to CAP agencies to help both the contractor and homeowner better understand the qualifications and the services being provided in the upcoming season.



Qualified Customer (print name) _____

Address _____

Idaho Power Acct. # _____

Contractor _____

Tune-up Date _____

Did you receive 12 filters? Yes No Do you: Own Rent Renters are responsible for landlord permission.

Customer Signature _____ Date _____

Coupon #20-03-<<001>>

CONTRACTOR CHECK LIST:

- Clean/adjust elements, sequencer
- Clean/adjust/lubricate moving parts
- Clean/adjust thermostat contacts/calibration
- Clean elements and replace air filters
- Check wiring connections/replace burnt wires
- Test starting capabilities and safety controls
- Leave behind 12 filters

Original coupon must be presented at time of service by coupon holder named at address on back. One coupon per customer. Void if copied or altered. Void where prohibited by law. No cash value.
 IDAHO POWER NEITHER EXPRESSLY NOR IMPLICITLY WARRANTS THE PERFORMANCE OF THE SERVICES PROVIDED IN CONNECTION WITH THIS COUPON OR ANY PART OF THE EASY SAVINGS PROGRAM. CUSTOMER UNDERSTANDS THAT IDAHO POWER IS NOT LIABLE OR RESPONSIBLE FOR THE PROPER COMPLETION OF THE WORK PERFORMED OR ANY OTHER ASPECT OF THE EASY SAVINGS PROGRAM.

Figure 11. Idaho Power Easy Savings coupon

Educational Distributions

	2019*	2018**
Participation and Savings		
Participants (kits/lightbulbs)***	95,528	94,717
Energy Savings (kWh)	19,250,220	19,333,668
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	\$2,989,184	\$3,307,782
Oregon Energy Efficiency Rider	\$91,688	\$67,409
Idaho Power Funds	\$0	\$0
Total Program Costs—All Sources	\$3,080,873	\$3,375,192
Program Levelized Costs		
Utility Levelized Cost (\$/kWh)	\$0.021	\$0.019
Total Resource Levelized Cost (\$/kWh)	\$0.021	\$0.019
Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	2.06	2.68
Total Resource Benefit/Cost Ratio	3.32	4.51

*2019 savings include HER Pilot Program savings for August 1, 2018–December 31, 2019. Savings will be based on a calendar year moving forward.

**2018 savings include HER Pilot Program savings for August 1, 2017–July 31, 2018.

***Participant counts do not include HER Pilot Program treatment size of 24,976.

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 energy advisors.

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—one for the kitchen and two for bathrooms.

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, the company gives away the more basic version of the kit for homes with alternate-source water heaters; energy savings is garnered from lighting changes and not dependent on the source of water heat.

Home Energy Report Pilot Program

Idaho Power works with a third-party contractor, Aclara Technologies LLC (Aclara), to pilot the HER Pilot Program. The objective of the HER Pilot is to encourage customer engagement in regard to electricity use in order to produce average annual behavioral savings of 1 to 3%. 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 offer suggestions to help customers change their energy-related behaviors. Aclara estimates energy savings that result from customers receiving the report by completing a statistical comparison of 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 Student Energy Efficiency Kit (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 2019, 41,317 kits were shipped to customer homes: 18,607 kits to homes with electric water heaters and 22,710 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: 40,159 to Idaho residences and 1,158 to Oregon homes.

Energy-Saving Kits as Giveaways

Field staff across Idaho Power's three regions gave away 700 kits at presentations, small events, and customer visits. The kits continue to be popular and appreciated by senior homeowners who had the opportunity to receive them at events sponsored by senior centers.

Home Energy Report Pilot Program

Idaho Power, in collaboration with Aclara, completed its second full year of the HER Pilot Program on July 31, 2019.

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%, and allowing for approximately 10% attrition over the pilot period. Initially, 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. During year two of the pilot, Idaho Power tested additional variables designed to inform a potential program expansion.

All treatment groups were optimized to remove customers who had demonstrated low savings during year one of the pilot. A new winter heating group with about 5,500 participants was added. The frequency of the reports was altered to compare the performance of bimonthly versus quarterly delivery. Customers were also given the option of receiving reports by email. A more robust customer satisfaction survey was fielded, and messaging related to short heating/cooling seasons was refined. In total, about 24,000 customers received reports during the second year of the program.

The second-year results showed estimated energy savings for the treatment period to range from between 0.5% and 1.82%—statistically significant for all but the lowest year-round energy users (those without electric heat and using < 9,000 kWh per year). The aggregate savings for the period of August 1, 2018, to July 31, 2019, was 5,433,539 kWh across all groups. The new winter-heating group participants used an average of 155 fewer kWh per home than their control group counterparts—a savings of 1.1%. For participants in their second year of the program, estimated savings for the period appeared to be statistically significant at between 184 to 386 kWh per home (about 1.8% below their respective control groups). Although the second year of the pilot concluded on July 31, 2019, the company continued to send reports to all current participants through the end of the year. In addition to estimated savings from year two of the pilot, estimated savings for the period of August through December have been included in the total savings for the Educational Distributions program.

Idaho Power’s customer solutions advisors responded to 160 HER Pilot-related phone calls in year two versus 411 during the first year. The participant-driven opt-out rate in year two was 0.22%—a decrease from year one (0.64%), but significantly lower than the industry average of 1%. Overall attrition in year two was just over 15% (includes opt-outs, move-outs, etc.). The customer satisfaction numbers gathered through a telephone survey continued to appear favorable.

At the conclusion of the pilot’s second year, the company reviewed the lessons from the pilot, fine-tuned the eligibility requirements, and committed to expand the program in 2020.

LED Lightbulbs as Giveaways

In 2019, Idaho Power energy advisors delivered educational messages and lightbulbs to attendees of home and garden shows and residents of senior centers and throughout the service area. Participants at Smart Women, Smart Money; the Idaho Environmental Education Association Conference; the Treefort Festival; the Platt Lighting Expo; and Touch a Truck Events received lightbulbs, too. Idaho Power was also present with an educational message and LED lightbulbs at civic events in Payette, Ontario, Meridian, Boise, Pocatello, Twin Falls, Nampa and Caldwell, as well as many Earth Day events, including the Portneuf Valley Environmental Fair and employer-sponsored events at Clif-Bar, Wells Fargo, Micron and Hewlett-Packard. Lightbulbs were also distributed at Cinco de Mayo in Fort Hall, the FitOneSM Expo, Idaho Power Shade Tree Project events, and at presentations for chambers of commerce, scout groups, and other community organizations.

By the end of the year, Idaho Power employees had personally delivered a brief energy efficiency message and distributed 12,946 lightbulbs directly to customers.

Student Energy Efficiency Kit Program

During the 2018 to 2019 school year, Idaho Power EOEAs actively recruited fourth- to sixth-grade teachers to participate in SEEK. As a result, Resource Action Programs (RAP) delivered 10,053 kits to

368 classrooms in 130 schools within Idaho Power’s service area. This resulted in 2,114 MWh of savings. In 2019, RAP was acquired by Franklin Energy; however, the program management team at RAP will continue working with Idaho Power to manage this successful program under the new banner.

Welcome Kits

Idaho Power continued to contract with a third-party vendor, Tinker Programs, to distribute a smaller energy efficiency kit for the company’s brand-new customers. The company sent nearly 31,000 Welcome Kits to customers in 2019, which was similar to the quantity delivered in 2018. Idaho Power continues to receive positive customer feedback indicating these kits are well-received.

Marketing Activities

Energy-Saving Kits

Marketing efforts included four direct-mail campaigns from the kit vendor: one to about 96,000 customers in January, a second to about 95,000 customers in April, a third to about 84,000 customers in August and the final to about 87,000 customers in October. The conversion rate for direct-mailers declined from 18 to 20% in previous years to about 7 to 15% in 2019 due to the fact that most eligible customers have already received one or more invitations to participate.

Employees continue to showcase ESKs at trade shows throughout the service area, and 3,750 bookmarks highlighting instructions on how to order the kit were distributed at events and presentations. The kits remain one of the most popular items of discussion on Idaho Power’s social media channels, with customers posting and writing comments thanking Idaho Power for the kit, encouraging friends and strangers to order their own, and asking questions about the ability to order more. Customers sharing how much they like and appreciate the kits is a strong marketing tool for Idaho Power.

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 live Idaho Power television segments in August—one on KTVB and one on KMVT.

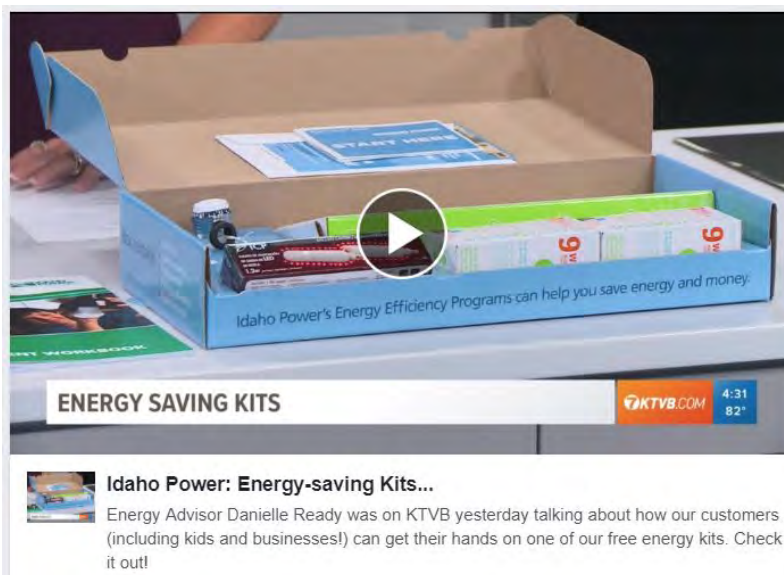


Figure 12. Energy-Saving Kits featured on local television

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 Program

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 2019, 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

During the 2018-2019 school year, Idaho Power EOEAs once again recruited fourth- to sixth-grade teachers to participate in SEEK. However, early in the fall, Idaho Power's EOEAs position in Twin Falls became vacant. To keep the program moving forward, Idaho Power implemented a pilot program to evaluate using the vendor's recruiting process in a targeted region. RAP began recruiting efforts in February 2019 and successfully enrolled 1,412 participants in 58 classrooms before the end of the school year. The enrollments generated by the vendor during the pilot were comparable to the 1,408 enrollments generated by Idaho Power during the 2017–2018 school year. Satisfaction and service levels remained high.

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 to fulfill the order. However, the kits are used to cross-market other programs through the inclusion of a small flip-book containing energy-saving tips and information about Idaho Power's energy efficiency programs.

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, faucet aerators, and the integrated high-efficiency showerheads with a TSV. 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 8.64 kWh per year. The by-request faucet aerator savings are 36.84 kWh when installed in a kitchen and 22.08 kWh when installed in the bathroom.

For the integrated 1.75 gallon per minute (gpm) low-flow showerhead with TSV, the RTF assumes an installation rate of 90%. Based on Idaho Power's follow-up survey results, it appears the installation rate is approximately 57%. For 2019, the Idaho Power adjusted the savings to be 147.83 kWh annually.

The annual savings for an ESK for a home with an electric water heater is approximately 307 kWh. The annual savings for a kit for a home with a non-electric water heater is approximately 78 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 8.64 kWh per bulb. The annual savings for each giveaway kit is approximately 78 kWh.

Home Energy Report Pilot Program

In 2018, Idaho Power reported pilot-year-one savings of 3,281,780 kWh for August 1, 2017, through July 31, 2018. In 2019, the program began transitioning the reporting timeframe away from the pilot-year to a calendar year. For 2019, the program is reporting pilot-year-two savings for the period of August 1, 2018 to July 31, 2019 of 5,433,539 kWh, as well as the estimated savings for the period between August through December. As a result, the total savings of 8,444,746 kWh is reflective of a 17-month period. The pilot will switch to a calendar-year reporting basis starting in 2020.

Idaho Power discussed with its consultant the potential of double counting savings in the HER Pilot when a customer receives a report and also participates in a program such as Energy Efficient Lighting. It was estimated that less than 5 percent of the savings may be double counted. A net-to-gross (NTG) factor of 95% is applied at the measure cost-effectiveness level. The program is cost-effective looking at program-year savings and 2019 calendar-year expenses even while only claiming a one-year savings life. The cost-effectiveness is expected to decline in 2020 due to the reporting of 12 months of savings instead of 17 months.

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 8.64 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 2018 to 2019 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%. 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 was replaced. Based on the feedback received from the 2018 to 2019 school year, RAP projects that each kit saved approximately 210 kWh annually per household on average, and the program saved 2,113,543 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 8.64 kWh per bulb. The annual savings for each kit is 34.56 kWh.

2020 Program and Marketing Strategies

Idaho Power plans an impact and process evaluation for the Educational Distributions program in 2020.

Energy-Saving Kits

In 2019, RAP was acquired by Franklin Energy. Idaho Power's program management team from RAP will continue to operate under the Franklin umbrella and provide continuity for this program. Idaho Power will once again offer ESKs to customers in 2020, with the caveat that if savings become non-cost-effective for LEDs, the company will discuss with EEAG the potential to end the program mid-year. While the program remains active, 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

As long as the ESK program is active, Idaho Power will continue to give away limited quantities of the basic kit for homes with alternate-source water heaters at presentations, small events, and during targeted visits to garner interest in energy efficiency.

Home Energy Report Pilot Program

Based on results from the two-year pilot, Idaho Power intends to expand its HER Pilot Program to include up to 150,000 customers. The new participants will receive a welcome letter and introductory report, followed by bi-monthly reports during the first year of their HER experience, and quarterly reports thereafter. Ongoing participants will continue to receive quarterly reports, with the first HER of 2020 delivered in early February.

There have been some changes in the contractors for the HER Pilot Program, and the company believes that this change in management may provide opportunities to enhance the current *Home Energy Report* template and/or messaging. As new options become available, the company will actively assess them with an eye toward improving savings and enhancing the customer experience.

In 2020, Idaho Power plans to conduct an evaluation for the HER Pilot Program.

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 as long as they are cost-effective. The educational sleeve around the bulbs will be updated to align with the current marketing materials.

Student Energy Efficiency Kit Program

RAP's program management team will continue to operate under the Franklin umbrella and provide continuity for Idaho Power's programs during the 2019 to 2020 school year. The Student Guide, Take-home Workbook, and kit box will be redesigned to align with Idaho Power's current imagery and marketing material and the student materials will be reviewed to ensure they continue to support state educational standards. The new materials will begin shipping as soon as the current inventory has been expended.

The company will continue to leverage the positive relationships Idaho Power's EOEAs have within the schools to maintain program participation levels; however, given the success of the alternative recruiting

strategy piloted in the Twin Falls area during the spring of 2019, the bulk of the outreach and recruitment for the 2019–2020 school year will shift to Franklin Energy.

Welcome Kits

In 2020, 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. The educational materials included in the kit box will be updated and aligned with current marketing materials. Should the cost-effectiveness of LEDs shift dramatically during the year, Idaho Power will work with EEAG and may exercise an option to adjust kit contents.

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. LED night lights may be an option for consideration.

Energy Efficient Lighting

	2019	2018
Participation and Savings		
Participants (lightbulbs)	1,336,440	1,340,842
Energy Savings (kWh)	16,245,551	18,856,933
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	\$2,026,977	\$2,343,127
Oregon Energy Efficiency Rider	\$99,285	\$92,003
Idaho Power Funds	\$0	\$0
Total Program Costs—All Sources	\$2,126,262	\$2,435,130
Program Levelized Costs		
Utility Levelized Cost (\$/kWh)	\$0.011	\$0.011
Total Resource Levelized Cost (\$/kWh)	\$0.014	\$0.014
Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	4.04	4.67
Total Resource Benefit/Cost Ratio	5.17	6.64

Description

Idaho Power and other regional utilities participate in the BPA-sponsored Simple Steps, Smart Savings™ program, managed by CLEAResult® Consulting, Inc. (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% 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, marketing, and 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 2019, LED lightbulbs comprised 94% of the program's sales for the year, a slight increase from the 92% of lightbulb sales in 2018. LED fixtures comprised approximately 6% of program sales, which was a decrease from the 8% of program sales in 2018.

In 2019, through the BPA Simple Steps, Smart Savings program, Idaho Power worked with 13 participating retailers, representing 95 individual store locations in its service area. Of those participating retailers, 90% were large retailers and 10% were smaller grocery, drug, and hardware stores. Many rural sales came from these smaller retailers that serve hard-to-reach customers. It is important to include a variety of store types across the Idaho Power service area to ensure all customers have access to the Simple Steps qualified products.

A 2018 program impact evaluation found no issues with the savings calculations other than a rounding issue that was discovered and corrected through a previous program evaluation of the Multifamily Energy Savings program. Additionally, the evaluators had no recommendation for the program related to claimed savings other than to continue the current process and rigorous quality assurance (QA)/quality-control (QC) processes already in place for the program, which results in a realization rate very close to 100%.

Marketing Activities

Several promotions were conducted through CLEAResult at retail stores in 2019 that generally involved special product placement and signs. CLEAResult staff continued to conduct monthly store visits in 2019 to check stock, point-of-purchase signs, and displays. Additionally, CLEAResult staffed 28 lighting events at Home Depot and Costco stores to educate customers about the Simple Steps promotion and the importance of using LED lightbulbs.

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 qualified products.

The company continued to host an Energy Efficient Lighting program website and made 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 social media posts throughout the year also focused on energy-efficient lighting. Idaho Power recommended using ENERGY STAR certified LED lightbulbs in its spring and fall *Energy Efficiency Guides*; the January and July issues of *Connections*; and the March, September, and November *Home Energy Reports*.

Cost-Effectiveness

In 2019, the Energy Efficient Lighting program provided 40% of all energy savings derived from residential energy efficiency customer programs and almost 9% of Idaho Power's direct program savings. Between 2018 and 2019, bulb sales remained steady while savings declined nearly 14%.

In December 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 these savings in 2019 in the Simple Steps, Smart Savings

promotion. The RTF LED workbook version 6.1 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, increased slightly from 10 kWh to about 12 kWh. This bulb type made up almost 54% of the total bulbs sold in the program and approximately 50% of the total savings. Due to the slight increase of per-unit savings, the total savings for this bulb type increased by just over 855,000 kWh between 2018 and 2019.

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 24 kWh to 8 kWh. These reflector bulbs made up almost 16% of the total lightbulbs sold in the program and nearly 11% of the total savings. In 2019, the 250–1049 lumen reflector lightbulb sales declined almost 20% compared to 2018. With the decline in both sales and deemed savings, the total savings for this bulb type declined nearly 3.6 million kWh between 2018 and 2019.

The RTF reviewed and approved new savings for LEDs in November 2018. Based on the timing of when BPA and CLEAResult adopt new savings from the RTF, these updates will be reflected in the 2020 program year. The RTF met in September 2019 to update the LED savings again. With the final phase of EISA no longer going into effect in 2020 (see the Future Plans section), Idaho Power is monitoring how utilities in the region plan to incorporate the latest RTF numbers beyond 2020.

The UCT and TRC ratios for the program are 4.04 and 5.17 respectively. While an impact evaluation was conducted for the program in 2018, a majority of the evaluation costs were incurred in 2019. If the amount incurred in 2019 was removed from the program’s cost-effectiveness, the UCT and TRC ratios would be 4.06 and 5.18 respectively.

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

Customer Satisfaction

In 2019, Idaho Power conducted a survey to compare lighting market trends in 2019 to trends from the 2016 Lighting Study. Both surveys were conducted with Idaho Power Empowered Community members. The 2019 survey was sent to 2,363 Empowered Community members; 1,002 (42%) responded.

The surveys asked questions related to the number of bulbs overall and the types of bulbs in all usage areas of respondent homes. Survey results from 2019 were compared to results from 2016 to identify changes in the types of bulbs respondents are using in their homes.

The results showed a notable increase in the use of LED bulbs by Empowered Community members in all usage areas of the home compared to the 2016 study. Consequently, the results also showed a decrease in the use of incandescent and compact fluorescent bulbs in all usage areas of the home compared to the 2016 study.

The general conclusion is the market shifted to favor LED bulbs between 2016 and 2019, and respondents to the 2019 study have embraced the change to LED bulbs. View the complete survey results in *Supplement 2: Evaluation*.

2020 Program and Marketing Strategies

As a result of the lighting market transforming to high-efficiency lightbulbs, BPA has announced its decision to end participation in the Simple Steps, Smart Savings program at the end of its fiscal year on September 30, 2020. Once BPA ends its participation, the program will not be available through the managing third party, CLEAResult. Idaho Power will continue to participate in the Simple Steps, Smart Savings lighting program while it's available, through September 30, 2020.

Idaho Power will monitor the number of participating retailers and geographic spread of these retailers and work with CLEAResult to develop online promotions that allow customers to access promotional pricing regardless of location—even in hard-to-reach markets.

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

Energy House Calls

	2019	2018
Participation and Savings		
Participants (homes)	248	280
Energy Savings (kWh)	309,154	374,484
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	\$143,570	\$146,712
Oregon Energy Efficiency Rider	\$18,324	\$14,065
Idaho Power Funds	\$0	\$0
Total Program Costs—All Sources	\$161,894	\$160,777
Program Levelized Costs		
Utility Levelized Cost (\$/kWh)	\$0.039	\$0.032
Total Resource Levelized Cost (\$/kWh)	\$0.039	\$0.032
Benefit/Cost Ratios*		
Utility Benefit/Cost Ratio	0.96	1.37
Total Resource Benefit/Cost Ratio	1.30	1.74

*2019 cost-effectiveness ratios include evaluation expenses. If evaluation expenses were removed from the program's cost-effectiveness, the UCT and TRCs would be 1.11 and 1.49, respectively.

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 2019, 248 homes received products and/or services through this program, resulting in 309,154 kWh savings (Figure 13). The decrease in participation is likely due to the program nearing saturation. The program is one of Idaho Power’s longest-running energy efficiency programs. Because participation is limited to once per home for the life of the program and is only available to electrically heated manufactured homes, a limited number of available homes meet the qualifications to participate.

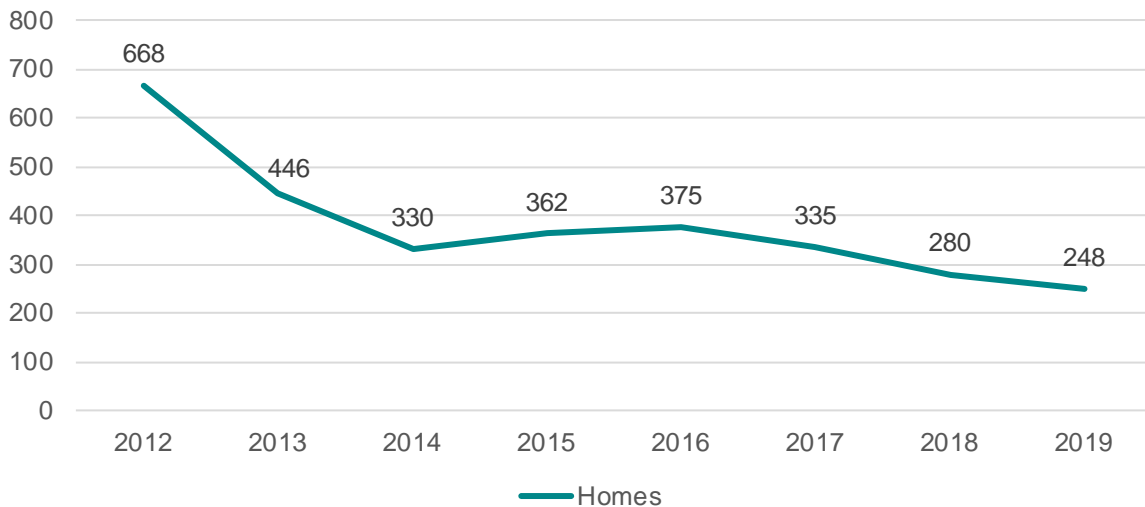


Figure 13. Participation in the Energy House Calls program, 2012–2019

Of the total participating homes, 45% were located in the Canyon–West Region, 22% were located in the Capital Region, and 33% were located in the South–East Region.

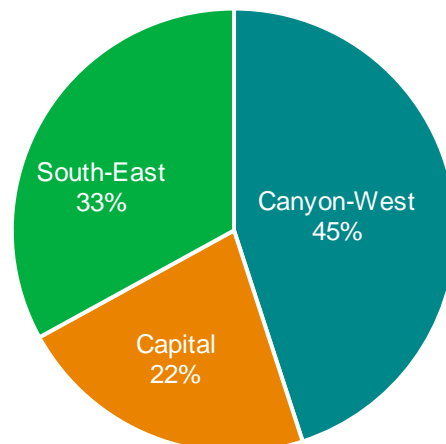


Figure 14. Energy House Calls participation by region

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%, 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 they included no kWh savings. 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 248 homes that participated in 2019, 32 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.

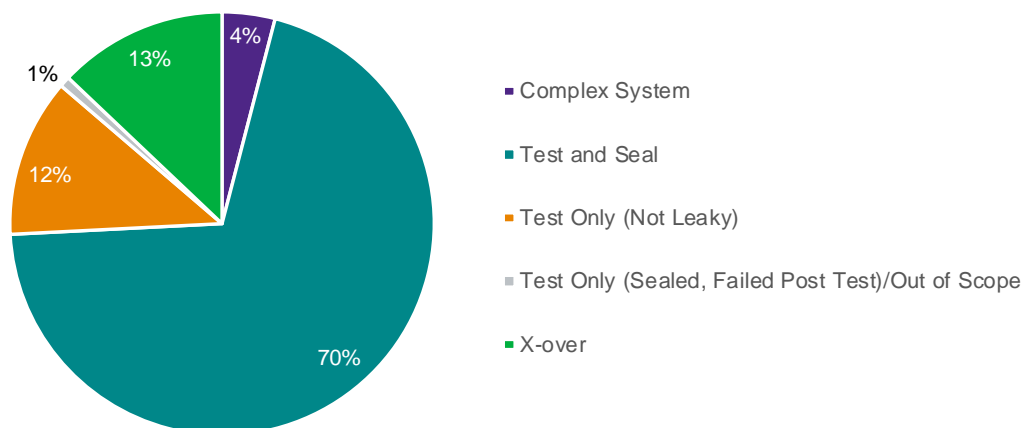


Figure 15. Energy House Calls participation by job type

Direct-Install Measures

In 2019, contractors installed 1,934 LED lightbulbs, 82 showerheads, 92 bathroom aerators, and 108 kitchen aerators. Contractors noted that they've seen a decrease in direct-install measures, as customers have commented they have already installed the provided products after receiving their free ESKs from Idaho Power. Of the 248 homes that participated in the program in 2019, 50% had received an ESK at some point in the past.

Marketing Activities

Idaho Power sent two bill inserts to all residential customers in Idaho and Oregon in 2019. The April bill insert was sent to 316,803 customers, and the December bill insert was sent to 311,837 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, 9,752 postcards were delivered in February and 9,819 in July.

A Facebook ad ran in June and reached 39,312 people, resulting in 723 website clicks. Using email as a tactic for the first time in October, Idaho Power sent an email to 3,241 manufactured or mobile home owners with electric heat in its service area, promoting the Energy House Calls services. Forty percent of recipients opened the email, and 52 of those clicked to learn more.

The design of the bill inserts, Facebook ad, email graphic, and direct-mailer was updated to match the new residential campaign and brighten up the old look. Idaho Power energy advisors and customer service representatives knowledgeable about the program continued to promote it to qualified customers.

Evaluations

In 2019, Idaho Power retained DNV GL to conduct an impact evaluation of 2018 reported savings and a process evaluation of current program processes. The results of the evaluations determined a successful program that conforms to industry best practices.

The impact evaluation found that Idaho Power used heating zones based on cities rather than zip codes to determine PTCS duct-sealing savings. Additionally, Idaho Power used a per-faucet savings value for aerators rather than a household value. This resulted in an overall realization rate of 99%. For 2019, Idaho Power has applied the duct sealing savings using the heating zones associated with the zip codes of the participants. In regard to the aerator savings, Idaho Power began using the RTF-deemed savings for 2019, so the household value versus the per facet aerator value is no longer an issue.

The process evaluation found that print collateral and websites are well done. Trade allies are a key means of implementing the program. After offering the program for 18 years, evaluators discovered that the program is nearing realistic saturation of the market.

Idaho Power will consider all recommendations from the process and impact evaluations; responses will be reported in the *Demand-Side Management 2020 Annual Report*. See the complete process and impact evaluation report in *Supplement 2: Evaluation*.

Cost-Effectiveness

In 2019, Idaho Power used the same RTF savings for duct-sealing in manufactured homes as were used in 2018. Savings and a cost-effectiveness analysis for the direct-install measures, including low-flow showerheads, faucet aerators, and LED lightbulbs, were completed using deemed savings from the RTF.

The UCT and TRC ratios for the program are 0.96 and 1.30, respectively. In late 2018 and early 2019, Idaho Power and EEAG discussed the frequency of evaluations and the potential impact of evaluation costs to program cost-effectiveness. EEAG recommended that cost-effectiveness be calculated with and without the evaluation costs. Impact and process evaluations were conducted for the Energy House Calls program in 2019. If the evaluation costs were removed from the program's cost-effectiveness, the UCT and TRC ratios would be 1.11 and 1.49, respectively.

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

2020 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 long as it remains cost-effective to do so.

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 emails, and use social media and other proven marketing strategies to encourage customer participation. Contractors and energy advisors 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

	2019	2018
Participation and Savings		
Participants (projects)	681	712
Energy Savings (kWh)	1,412,343	1,556,065
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	\$478,560	\$565,780
Oregon Energy Efficiency Rider	\$20,619	\$19,431
Idaho Power Funds	\$0	\$0
Total Program Costs—All Sources	\$499,179	\$585,211
Program Levelized Costs		
Utility Levelized Cost (\$/kWh)	\$0.028	\$0.029
Total Resource Levelized Cost (\$/kWh)	\$0.084	\$0.085
Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	1.56	1.65
Total Resource Benefit/Cost Ratio	0.77	0.83

Description

Initiated in 2007, the objective of the Heating & Cooling Efficiency (H&CE) Program is to provide customers with energy-efficient options for space heating and cooling and water heating to save energy. The program provides incentives to residential customers, builders, and installation contractors in Idaho Power's service area for the purchase and proper installation of qualified heating and cooling equipment and services.

Measures, Conditions, and Incentives/Stipends for Existing Homes

- Ducted air-source heat pump:
 - 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). A \$50 stipend is paid to the participating contractor.
 - 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. A \$50 stipend is paid to the participating contractor. 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. A \$50 stipend is paid to the participating contractor.
- Ducted open-loop water-source heat pump:

- 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). A \$50 stipend is paid to the participating contractor.
- 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. A \$50 stipend is paid to the participating contractor.
- Ductless air source heat pump: The customer incentive for displacing a zonal electric heating system with a new ductless air source heat pump is \$750.
- Duct sealing: 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.
- Electronically commutated motor: 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. A \$150 incentive is paid to the licensed contractor.
- Evaporative cooler: The customer incentive for installing an evaporative cooler is \$150.
- Heat pump water heater (HPWH): The customer incentive for installing a HPWH is \$300.
- Smart thermostat: The customer incentive for a smart thermostat installed in an existing home with an electric forced-air furnace or a heat pump is \$75.
- Whole house fan: 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.

Measures, Conditions, and Incentives/Stipends for New Homes

- Ducted air-source heat pump: The incentive for homeowners, property owners, 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. A \$50 stipend is paid to the participating contractor. Participating homes must be located in areas where natural gas is unavailable.
- Ducted open-loop water-source heat pump: The incentive for homeowners, property owners, 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. A \$50 stipend is paid to the participating contractor. Participating homes must be located in areas where natural gas is unavailable.

Idaho Power requires licensed contractors to perform the installation services related to all of these measures, except evaporative coolers, HPWH, and smart thermostats. To qualify for the heat pump and duct sealing incentive, an authorized participating contractor must perform the work. To be considered a participating contracting company, an employee from the contracting company must first complete Idaho Power's required training regarding program guidelines and technical information on HVAC equipment.

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

Program Activities

In 2019, Idaho Power conducted research and activities to improve customer participation and satisfaction in the H&CE Program. An exercise, described as journey mapping, was completed by a dedicated team from multiple departments who met periodically for three months to challenge, discuss, and modify elements of the program in detail. The purpose of the exercise was to identify difficulties customers might experience when participating in the program. The primary elements identified for revision included website content and application forms. Idaho Power launched 11 improved program measure website landing pages on December 31, 2019; 10 new application forms are targeted for completion in 2020. Also, based on changing market conditions and with support from EEAG, Idaho Power made program modifications related specifically to the smart thermostat measure, which originally was added to the H&CE Program in March 2016.

These program modifications became effective on January 1, 2020, for the smart thermostat measure:

- The customer may install the smart thermostat instead of requiring a licensed contractor.
- Qualified home types expanded from single family, site built to include manufactured homes, duplexes, triplexes, and fourplexes.
- The list of qualified smart thermostat brands/models was eliminated, allowing all internet-connected thermostats to qualify.
- The company revised the application forms and website content to reflect the smart thermostat program changes.

Idaho Power relies, in part, on the RTF to determine the energy savings values it claims for the smart thermostat measure. However, the RTF announced it would no longer support their savings calculations for the smart thermostat measure in November 2019. Based on this decision, Idaho Power and other stakeholders funded, developed, and launched a regional Smart Thermostat Research Study to provide regional smart thermostat performance data to the RTF for it to use to estimate savings. The study, which began in November 2019, is expected to require at least one year to complete. Because of the commencement of the regional study, the RTF extended the period it would support the savings estimates to December 31, 2020.

Idaho Power continued work to improve penetration in the ductless heat pump (DHP) market for homes heated with electric zonal systems. For example, Idaho Power and NEEA provided product and application training to HVAC wholesalers and contractors across the company's service area. Five, four-hour training sessions were provided in October at wholesalers' business locations. Each was met with appreciation by the attendees.

The 2019 H&CE Program paid incentives are listed in Table 9.

Table 9. Quantity of H&CE Program incentives in 2019

Incentive Measure	Project Quantity
Ducted Air-Source Heat Pump	181
Ducted Open-Loop Water-Source Heat Pump	10
Ductless Heat Pump	184
Evaporative Cooler	8
Whole-House Fan	49
Electronically Commutated Motor	57
Duct-Sealing	5
Smart Thermostat	162
Heat Pump Water Heater	26

Honeywell performed random OSVs on 5% 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 2019, the company held meetings with many prospective contractors to support this approach. As a result, Idaho Power provided one-on-one training sessions to 11 new contractors in 2019.

Marketing Activities

Idaho Power used multiple marketing methods for its H&CE Program in 2019, focusing efforts toward the hottest and coldest times of the year.

A print postcard was sent to a small targeted group of 7,642 electrically heated customer homes in February and highlighted the various program measures. The company mailed a bill insert to 323,453 residential customers in April and 327,780 residential customers in September.

In July, the H&CE Program was promoted through email messaging to 168,771 residential customers resulting in a 38% unique open rate (the recipient opened it at least once), and 4,138 unique click throughs to the H&CE Program web page.

In February, Idaho Power used three types of digital ads to promote the program: digital display ads, which were aimed at specific people based on their internet browsing preferences; remarketing ads, which targeted only people who have previously visited the H&CE Program web pages; and Facebook ads. The digital display ads resulted in 3,824,209 impressions with 9,254 clicks to the H&CE Program web page, and the remarketing ads resulted in a total of 17,304 impressions with 128 clicks to the H&CE Program web page. The Facebook ad reached 66,988 customers and resulted in 1,441 clicks to the H&CE Program web page. Digital display ads also ran mid-September to mid-October and had 3,040,457 impressions and 9,988 click throughs to the H&CE Program web page. The fall ads used animated imagery that added visual interest.

Several company social media posts throughout 2019 focused on tips related to home heating/cooling. DHPs were prominently featured in the company's overall energy efficiency campaign that ran in a variety of mass-media locations. Additionally, an article on DHPs was featured in the summer *Energy*

Efficiency Guide, and an article discussing “Caring for Your HVAC System” was featured in the fall/winter *Energy Efficiency Guide*.

The company made significant content updates to the H&CE Program web pages to improve readability and clarity. Additionally, the program specialist continued to distribute flyers, called tech sheets, to interested customers and contractors. The eight flyers are especially beneficial as a sales tool for contractors, for use at trade shows, and as a mailer to customers without internet access who seek program and individual cash incentive information.

Cost-Effectiveness

The H&CE Program has a utility cost test of 1.56 and total resource cost test of 0.77. The decrease in UCT and TRC over 2018 is largely due to the application of the 2017 DSM alternate costs.

The savings assumptions for most measures including air source heat pumps, open-loop water-source heat pump, DHPs, and duct sealing remain unchanged from 2018. All measures within the program pass the UCT except for smart thermostats. However, the measure would pass the UCT if administration costs were not included in the measure’s cost-effectiveness. A handful of measures, such as DHPs and open-loop water-source heat pumps are not cost-effective from a TRC perspective. These measures and the program itself have cost-effectiveness exceptions with the OPUC under UM 1710.

While the savings assumptions are expected to remain unchanged in 2020, the RTF began updating several workbooks in late 2019 and will continue to update these workbooks in 2020. Changes include a reduction in savings for ductless heat pumps and removal of savings for heat pump commissioning, controls, and sizing. Idaho Power continually monitors these changes and may make changes to the program offerings in 2021 to reflect these updates.

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

2020 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 participating contractors 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 2020 is to develop contractors currently in the program while adding new contractors. To meet this objective, the program specialist will frequently meet with contractors in 2020 to discuss the program.

The 2020 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.

Home Energy Audit

	2019	2018
Participation and Savings		
Participants (homes)	421	466
Energy Savings (kWh)	179,754	211,003
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	\$230,786	\$264,394
Oregon Energy Efficiency Rider	\$0	\$0
Idaho Power Funds	\$0	\$0
Total Program Costs—All Sources	\$230,786	\$264,394
Program Levelized Costs		
Utility Levelized Cost (\$/kWh)	\$0.122	\$0.113
Total Resource Levelized Cost (\$/kWh)	\$0.150	\$0.137
Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	n/a	n/a
Total Resource Benefit/Cost Ratio	n/a	n/a

Description

Under the Home Energy Audit program, a certified, third-party home performance specialist conducts an in-home energy audit to identify areas of concern and 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 auditor writes up the findings and recommendations, and the software creates a report 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 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 available to install in each home is approximately \$145.

Each year, the QA goal for the program is to inspect 5% of all audits.

Program Activities

In 2019, Idaho Power implemented new software, SnuggHome, that enhances auditing report functionality and cyber security. To prepare for the new software, Idaho Power tested it and trained the home performance specialists on its use in late 2018. The new software offers features such as extra savings calculations, an enhanced ability to include photos and free-form text, and standardized text promoting applicable Idaho Power programs.

Three home performance specialist companies served the program in 2019 and completed 466 energy audits. House size ranged from 625 square ft (ft²) to 9,092 ft², with 2,383 ft² being the average-sized home. Houses were built from 1883 to 2018, with the average age of home being 35 years old.

Figure 16 depicts the program’s reach across Idaho Power’s service area, and Figure 17 depicts the space and water heating fuel types. Figure 18 indicates the total quantity of direct-install measures.

QA was completed on 23 of the Home Energy Audits, which comprised 5% of the 2019 audits; all those inspected passed.

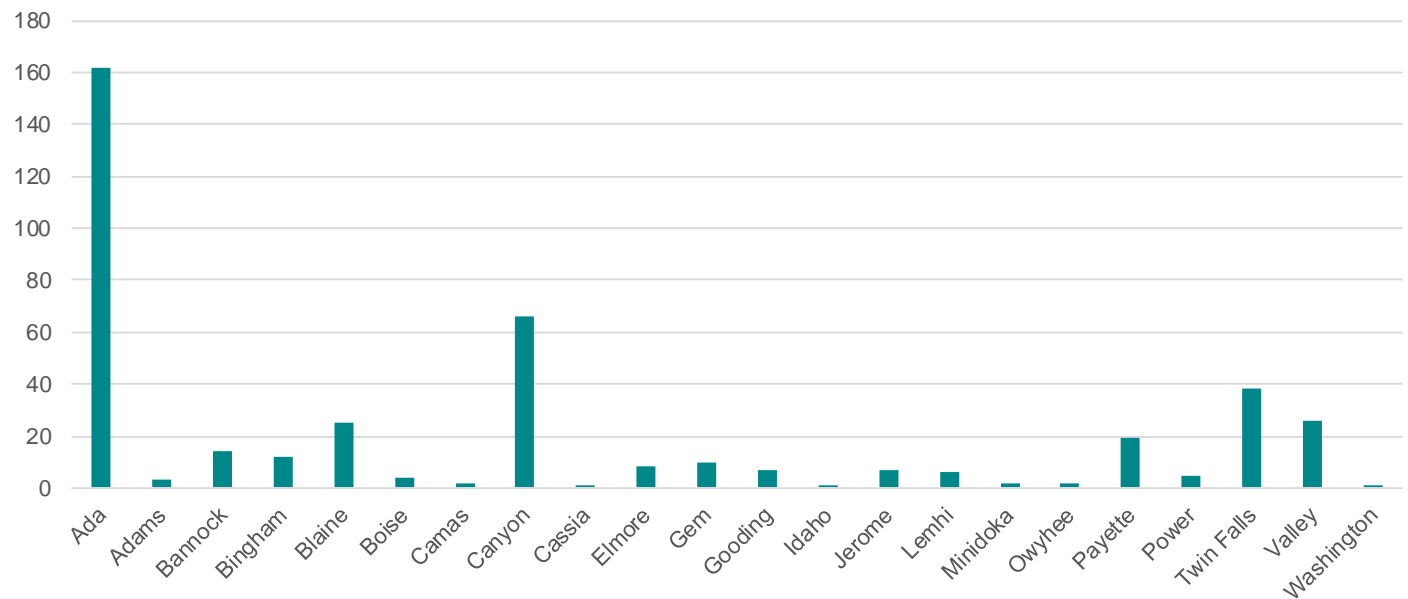


Figure 16. Home Energy Audit summary of participating homes, by county

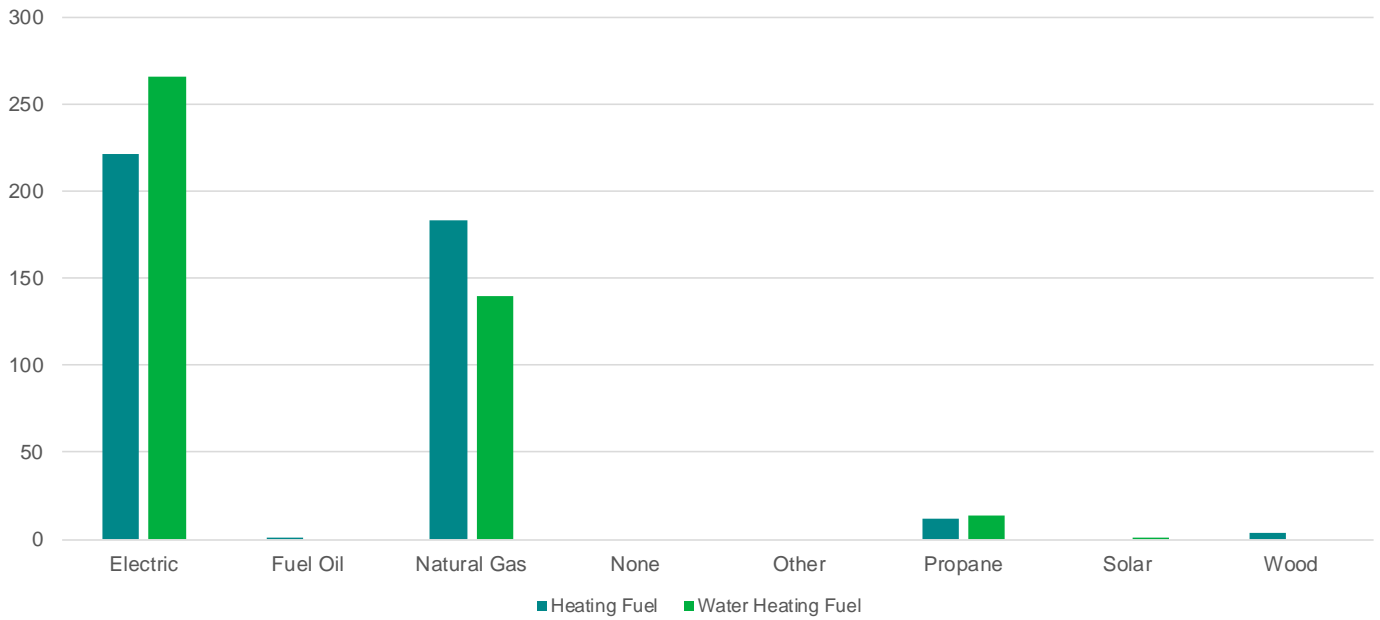


Figure 17. Home Energy Audit summary of space and water heating fuel types

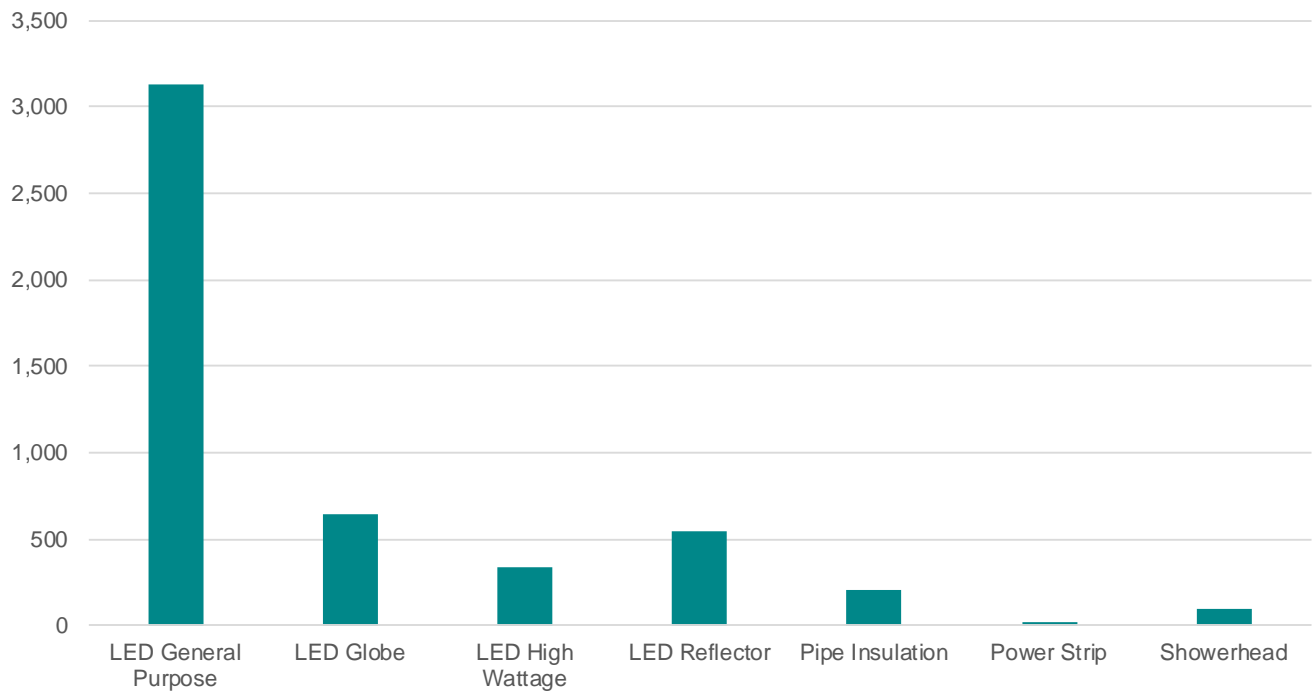


Figure 18. Number of Home Energy Audit measures installed in participating homes

Marketing Activities

In 2019, Idaho Power updated the Home Energy Audit marketing imagery to match its new campaign materials. The company recruited participants using small batches of direct-mail letters to ensure customers who signed up were contacted within a short timeframe and to avoid a large backlog of work that could result in a poor customer experience.

In September, Idaho Power collaborated with the University of Idaho's Valley County Extension Office to host an energy efficiency workshop in Donnelly, Idaho. The company sent letters and used a Facebook post to invite residents to attend the evening workshop. Nine residents attended the well-received workshop. Attendees learned how to check their homes for efficiency, how to make some 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.

Idaho Power sent program-related bill inserts to 325,430 residential customers in March, 321,064 customers in June, and 312,612 customers in December. In July, the company sent a *News Briefs* communication featuring the program to local media; KTVB featured the program on a news segment that same month.

In February, targeted digital display ads ran on a variety of websites based on user demographics, search behavior, and other factors. The ads generated 1,285,416 impressions and a 0.20% click-through rate. In June, a Facebook post about the program was boosted, resulting in 11,475 impressions. Pop-up ads promoting the program in My Account ran in July and October. The July ad had 28,712 impressions, and the October ad had 52,593 impressions.

In February and October, the company sent customers program-related promotional emails. The February message was sent to 11,318 customers, with a unique open rate of 26%. The July message was sent to 15,941 customers with a unique open rate of 24%.

In October, the City of Boise offices displayed multiple posters from Idaho Power to educate residents on how thorough the Home Energy Audit process is.

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, 37.76%; family member or friend, 9.06%; Idaho Power employee, 5.74%; social media, 1.21%; other, 46.22%.

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. Because 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 52 kWh per year. This was a slight decrease over the 2018 lightbulb savings which ranged from 16 to 61 kWh per year.

In Idaho Power's *Energy Efficiency Potential Study*, Applied Energy Group (AEG) estimates that pipe wraps save 78 kWh per year. The assumptions for showerhead savings remain the same as 2018. Savings for both showerheads and pipe wrap were counted for homes with electric water heaters.

As recommended in a previous evaluation, non-energy benefits (NEB) have been determined 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 78 kWh of pipe wrap savings to 2.66 therms and those gas savings are included in the sector and portfolio cost-effectiveness.

2020 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.

Multifamily Energy Savings Program

	2019	2018
Participation and Savings		
Participants (projects [buildings])*	457 [12]	764 [25]
Energy Savings (kWh)	346,107	655,963
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	\$115,560	\$205,131
Oregon Energy Efficiency Rider**	\$15,745	\$0
Idaho Power Funds	\$0	\$0
Total Program Costs—All Sources	\$131,306	\$205,131
Program Levelized Costs		
Utility Levelized Cost (\$/kWh)	\$0.036	\$0.030
Total Resource Levelized Cost (\$/kWh)	\$0.036	\$0.030
Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	1.15	1.60
Total Resource Benefit/Cost Ratio	2.34	3.00

* Previously, Idaho Power reported participant counts based on the number of apartment buildings. In 2019, participant counts are based on the number of apartment units (projects) and buildings.

** Idaho Rider charges of \$13,264 were reversed and charged to the Oregon Rider in March 2019.

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

In 2019, 12 projects across the Idaho service area were completed, resulting in 457 apartment units receiving energy-saving products. There were no projects in Oregon.

At EEAG's suggestion, Idaho Power added an attic insulation measure to the program for apartment complexes with attic insulation levels of R7 or less, though no insulation projects were identified or requested in 2019.

In 2018, the program underwent impact and process evaluations by Tetra Tech. In addition to the savings calculation recommendations discussed in the Cost Effectiveness section below, Tetra Tech made two impact recommendations.

The evaluator recommended that Idaho Power work with the equipment supplier(s) to investigate options to provide a reduced cost to contractors that order directly from suppliers. The contractors outside of the Treasure Valley order their own materials in combination with supply orders for other programs. After researching the prices paid by the two contractors outside the Treasure Valley, Idaho Power determined they do pay 10 to 18% more for the most commonly used lightbulbs because they do not receive the same high-volume discount as Idaho Power. The company will investigate opportunities for these contractors to receive reduced prices while preserving their ability to order supplies for multiple programs.

The evaluator also suggested that as the program expands, it will be important for Idaho Power to have clear inventory counts of program materials installed. To track the materials installed, the evaluator suggested that Idaho Power use the suppliers' invoices to the contractors for equipment ordered for the Multifamily Energy Savings Program. This will create a single process and minimize Idaho Power's risk associated with the equipment use and storage.

Idaho Power agrees that keeping clear and accurate records regarding equipment used is critical to the success of the program, and for this reason, the company keeps track of equipment installed using supplier invoices and contractor installation logs, and it monitors unused inventory. Idaho Power will work toward greater consistency in records management between contractors by exploring alternate ways to collect equipment inventory and costs, while balancing process complexities and overall program costs.

Marketing Activities

Three alternating, clickable ads continued to run in 2019 on the Landlord/Property Manager Requests page of Idaho Power's website. The clickable ads directed users to the Multifamily web page.

A marketing video placed at the top of the Multifamily Energy Savings Program web page also continued to run in 2019. 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 to be more comfortable in their home. Contact information is provided at the end of the video.

In June, a print ad promoting the program ran in the *Idaho Business Review's* special *Residential Property Management* section. The ad featured updated imagery to match the refreshed look of the company's energy efficiency marketing collateral.

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. 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.

Cost-Effectiveness

The RTF provides deemed savings for direct-install LED lightbulbs, low-flow showerheads, and faucet aerators. The LED lightbulbs have a deemed savings value of 16.79 to 53.56 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 254.87 kWh per year. Faucet aerators installed in a kitchen have a deemed annual savings value of 43.94 kWh while faucet aerators installed in a bathroom save 47.88 kWh per year.

The 2018 evaluation recommended Idaho Power use the RTF savings out to two decimal places. That recommendation was applied to all of Idaho Power's programs. The evaluators also recommended the use of primary and secondary designation for showerhead savings instead of the any designation. In 2016, the RTF removed the primary and secondary measure identifiers because of the uncertainty around those designations. In the RTF workbooks for showerheads, savings are sometimes broken down by housing type and electric water heater type. While Idaho Power must continue to use the any showerhead designation, it will continue to try to match the savings to the actual installation practice to the best of its ability. Finally, the evaluators recommended that lighting quantities be recorded for each area of the home to match the RTF categories. Idaho Power encourages the installers to install bulbs in high-use areas, such as kitchens, living rooms, and family rooms; however, installers do install bulbs in other moderate use areas, such as bedrooms and bathrooms. Idaho Power is exploring how to update the installation worksheets for all direct-install programs to increase the accuracy of the data being collected while minimizing the impact and burden to the installers and costs to the programs.

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 38 out of over 450 residents responding by mailing in the stamped survey cards; no online surveys were submitted. Residents were asked to rate several attributes on a scale of 1 to 5, with 1 being very dissatisfied and 5 being very satisfied. Overall, the residents who responded to the survey were satisfied with the project. When asked how satisfied they were with the quality of the products and the overall project, approximately 89% of respondents rated both 4 or 5.

2020 Program and Marketing Strategies

Participation in 2019 was lower than in 2018 because some properties the company anticipated to be completed by year end, ultimately chose not to participate. Idaho Power will continue working with those properties to see if they want to participate in the future, and it will continue pursuing more energy-efficient direct-installation projects in multi-family dwellings throughout its service area in 2020.

Idaho Power will use informative notifications, pre-installation door hangers, and post-installation informational marketing pieces, as well as survey cards. The company will also advertise in industry publications to encourage property owner/manager engagement and increase program visibility.

Oregon Residential Weatherization

	2019	2018
Participation and Savings		
Participants (audits/projects)	8	5
Energy Savings (kWh)	2,069	n/a
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	\$0	\$0
Oregon Energy Efficiency Rider	\$5,982	\$5,507
Idaho Power Funds	\$0	\$0
Total Program Costs—All Sources	\$5,982	\$5,507
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 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%-interest loan for a portion of the costs for weatherization measures.

Program Activities

In 2019, seven customers returned a card from the program brochure indicating interest in the program. All seven of these customers met the program requirements and received audits, though six of these customers chose not to move forward with the recommended energy efficiency upgrades. One customer chose to upgrade her windows and received an incentive of \$440.

Marketing Activities

Idaho Power added a web page to its Residential Energy Efficiency section to assist in marketing the program to Oregon customers.

During May, 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 Schedule 78 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.

Of the seven audits conducted in 2019, one participant submitted an energy efficiency project.

2020 Program and Marketing Strategies

Idaho Power will continue to market the program to customers with a bill insert/brochure.

Rebate Advantage

	2019	2018
Participation and Savings		
Participants (participants)	109	107
Energy Savings (kWh)	353,615	284,559
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	\$148,220	\$105,770
Oregon Energy Efficiency Rider	\$8,529	\$41,714
Idaho Power Funds	\$0	\$0
Total Program Costs—All Sources	\$156,748	\$147,483
Program Levelized Costs		
Utility Levelized Cost (\$/kWh)	\$0.023	\$0.027
Total Resource Levelized Cost (\$/kWh)	\$0.052	\$0.064
Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	1.82	1.93
Total Resource Benefit/Cost Ratio	1.14	1.08

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 Home Program™ (NEEM) housing program establishes QC and energy efficiency specifications for qualified homes. NEEM is a consortium of manufacturers and state energy offices in the northwest. In addition to setting specification and quality standards, NEEM tracks the production and on-site performance of ENERGY STAR qualified manufactured homes.

Program Activities

In 2019, the residential customer incentive for this program was \$1,000; the sales staff incentive was \$200 for each qualified home sold. Idaho Power paid 109 incentives on new manufactured homes, which accounted for 353,615 annual kWh savings. This included 103 homes sited in Idaho and six sited in Oregon.

Marketing Activities

In April and December, the Rebate Advantage program was promoted through a bill insert was sent to 316,803 and 311,837 customers, respectively. The insert had information about the potential energy and dollar savings to customers and referred customers to the program website.

In October, an email promotion was sent to 3,241 customers promoting the Rebate Advantage program. The email had a unique open rate of 40.21%.

For two weeks in July, Idaho Power ran digital advertising on a variety of websites based on user demographics and search behavior. The ads had a total of 3,249,638 impressions with a click-through rate of 0.06%.

Idaho Power continued to support manufactured home dealerships by providing them with updated Rebate Advantage program marketing collateral.

Cost-Effectiveness

In 2019, Idaho Power used the same savings and assumptions source as were used in 2018. However, the program saw an increase in NEEM-certified homes in the program in 2019. Manufactured homes certified under NEEM have higher savings than ENERGY STAR and EcoRated certified manufactured homes. Of the 109 homes in the program, 28 were NEEM 2.0. As a result, while participation levels remain similar to 2018, savings increased by over 24%.

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

2020 Program and Marketing Strategies

No operational changes are expected in 2020. However, Idaho Power plans to hire a third-party contractor to conduct an impact evaluation of this program as part of its routine evaluation schedule.

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

	2019	2018
Participation and Savings		
Participants (participants)	322	307
Energy Savings (kWh)	774,597	777,369
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	\$534,118	\$400,910
Oregon Energy Efficiency Rider	\$0	\$2
Idaho Power Funds	\$0	\$0
Total Program Costs—All Sources	\$534,118	\$400,912
Program Levelized Costs		
Utility Levelized Cost (\$/kWh)	\$0.035	\$0.027
Total Resource Levelized Cost (\$/kWh)	\$0.092	\$0.061
Benefit/Cost Ratios*		
Utility Benefit/Cost Ratio	1.58	2.51
Total Resource Benefit/Cost Ratio	0.83	1.23

*2019 cost-effectiveness ratios include evaluation expenses. If evaluation expenses were removed from the program's cost-effectiveness, the UCT and TRCs would be 1.66 and 0.85, respectively.

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, all-electric 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% 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 company paid incentives for 322 newly constructed energy-efficient homes in Idaho. Of those 322 homes, 104 were homes that were certified under the ENERGY STAR Homes Northwest program

that was phased out in 2018. These homes were certified by December 31, 2018, and the incentive processed in early 2019. These were the last of the ENERGY STAR certified homes in the program and accounted for 253,760 kWh saving in the program. The remaining 218 homes were certified under the Residential New Construction Pilot Program and received an incentive is \$1,500. These Residential New Construction Pilot Program homes accounted for energy savings of 520,837 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 2019. The company participated in the IBCA Fall Board Meeting, the Building Contractors Association of Southwestern Idaho (BCASWI) builder's expo, the Snake River Valley Building Contractors Association (SRVBCA) builder's expo, and the BCASWI and SRVBCA scholarship golf tournaments.

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, the SRVBCA, and the Building Contractors Association of Southeast Idaho (BCASEI). A print ad appeared in the *Idaho Business Review's Residential Contractor's Special Edition* in June as well as the June edition of *IdaHome* magazine.

The company sent a bill insert to 321,465 Idaho customers in May to promote the program. In June, the program was also mentioned in the month's internal *News Scans* and in a *News Briefs* communication sent to service area media outlets. Idaho Power's July issue of its *Connections* newsletter highlighted a Boise-area contractor that had taken advantage of the program. Idaho Power sent program brochures to the City of Boise Public Works office where they were prominently displayed at the welcome counter.

Evaluations

In 2019, Idaho Power retained DNV GL to conduct an impact evaluation of 2018 reported savings and a process evaluation of current program processes. Overall, the program had a realization rate of 100%.

Overall, the evaluators found the program documentation was good, the marketing collateral was well-done, and the raters and builders are satisfied with the program administration. The evaluators did make some recommendations which Idaho Power will consider, and responses will be reported in the *Demand-Side Management 2020 Annual Report*. See the complete report in *Supplement 2: Evaluation*.

Cost-Effectiveness

The last of the ENERGY STAR Homes Northwest certified homes were processed in the program in early 2019. The RTF savings were applied to the 104 legacy ENERGY STAR homes, and the assumptions remained the same as 2018. Savings for the 218 energy-modeled homes average 2,389 kWh per home depending on which efficiency upgrades were included to meet the 20% over code program requirement.

While savings are custom calculated for each of the 218 modeled homes, the incremental costs over a code-built home are difficult to determine. The RTF's single-family new construction workbook was used as a proxy for the incremental costs and non-energy benefits.

The UCT and TRC ratios for the program are 1.58 and 0.83, respectively. Impact and process evaluations were conducted for the Residential New Construction Pilot Program in 2019. If the evaluation costs were removed from the program's cost-effectiveness, the UCT and TRC ratios would be 1.66 and 0.85, respectively. The program is cost-effective from a UCT perspective. The TRC is largely driven by the incremental costs which are a challenge to ascertain and vary for each custom-built home. Idaho Power will continue to research these costs in 2020.

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

2020 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 BCASEI. A bill insert is planned for spring 2020. 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.

Working with EEAG, Idaho Power began offering a tiered incentive in quarter one of 2020. The company explained to EEAG that the methodology used to calculate how much more efficient a home was than a home built to code was changing and discussed how that might negatively impact future participation. The percent above code that a home is built determines eligibility to qualify for the pilot program. The company asked for feedback on program options, and EEAG supported a tiered incentive approach as a way to mitigate potential negative impacts. As a result, the company made program changes to the Residential New Construction Pilot Program and implemented a three-tiered incentive structure. Homes in the pipeline on December 31, 2019, are grandfathered into the 2019 program.

The new tiered incentives are:

- 10 to 14.99% above code: \$1,200 incentive
- 15 to 19.99% above code: \$1,500 incentive
- 20% or more above code: \$2,000 incentive

Shade Tree Project

	2019	2018
Participation and Savings		
Participants (trees)	2,063	2,093
Energy Savings (kWh)*	35,727	35,571
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	\$147,750	\$162,995
Oregon Energy Efficiency Rider	\$0	\$0
Idaho Power Funds	\$0	\$0
Total Program Costs—All Sources	\$147,750	\$162,995
Program Levelized Costs		
Utility Levelized Cost (\$/kWh)	\$0.235	\$0.307
Total Resource Levelized Cost (\$/kWh)	\$0.235	\$0.307
Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	1.09	0.71
Total Resource Benefit/Cost Ratio	1.16	0.80

* Incremental savings for trees planted between 2013–2015.

Description

Idaho Power’s Shade Tree Project operates in a small geographic area each spring and fall, offering no-cost shade trees to Idaho 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, schools, and other non-profit organizations.

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 local experts. These 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.

According to the DOE, a well-placed shade tree can reduce energy used for summer cooling by 15% 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—provide Idaho Power with the information to facilitate a shade tree project.

Program Activities

In 2019, 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 Bannock, Bingham, and Power counties. Overall, Idaho Power distributed 2,063 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 865 trees and 1,198 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 two in the fall. Staging multiple pickup days, locations, and times helps maximize the number of trees picked up. In 2019, 84% 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 customer information to identify customers who lived in a house built within the last 10 years. Approximately 3,859 direct-mailers were sent to targeted customers in the spring and 3,568 in the fall.

For both offerings, Idaho Power also sent emails to customers who requested information about the project through Idaho Power’s website. Idaho Power teamed up with local organizations in Twin Falls and Pocatello to share information through their networks.

A poster was available in 2019 to showcase what each tree would look like at full maturity and was a useful reference for customers who had questions. Idaho Power updated the cover of the information packet with the new look of the residential campaign.

Each recipient of a shade tree received the information packet containing planting directions, tips, illustrations, and other useful information. In September 2019, 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 social media posts and *News Briefs* in April and October announcing the success of the distribution events and thanking participants and hosts (Figure 19).

The Shade Tree Project was also promoted in the *Home Energy Reports*.

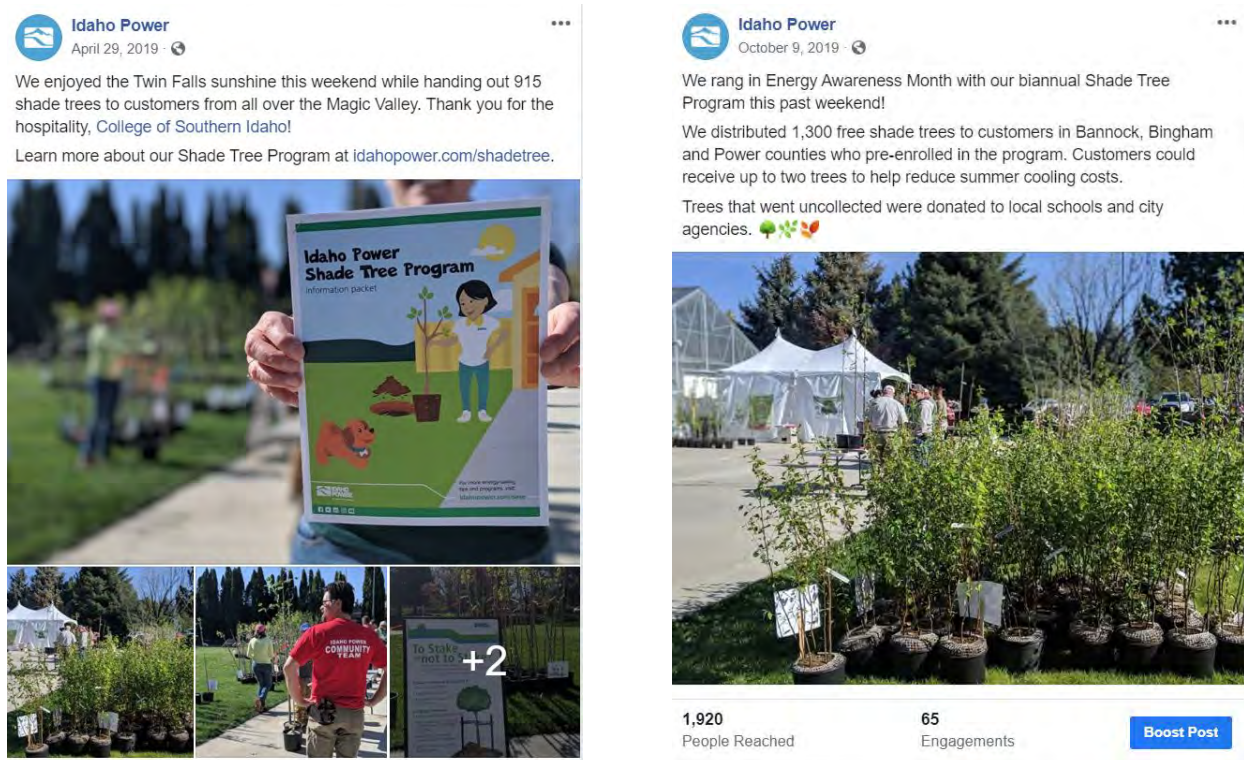


Figure 19. Shade Tree Project social media posts

Cost-Effectiveness

For the Shade Tree Project, Idaho Power utilizes the Arbor Day Foundation’s software, which calculates energy savings and other non-energy impacts based on tree species and orientation/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 assume each tree is planted as planned and does not take into account survivorship of the trees. In 2018, Idaho Power contracted with DNV GL to develop a model to calculate average values per tree and determine a realization rate based on the survival rate. In 2019, DNV GL further enhanced the model to adjust savings based on the tree species distributed and the location, since the offering recently expanded to Twin Falls and Pocatello. These calculated savings with the applied realization rate are reported in the annual report and used for the cost-effectiveness analysis. Idaho Power will continue to work with DNV GL in 2020 to improve the savings calculator.

As part of its update to the savings model, DNV GL researched potential spillover savings. As a shade tree grows, it not only shades the home of the participant but neighboring homes as well. DNV GL recommended Idaho Power use a spillover factor of 24%. The savings calculator does not factor in spillover in the savings calculation; however, the spillover is applied to the cost-effectiveness calculation as a net-to-gross (NTG) percentage.

While the i-Tree software only estimates savings for trees at 5, 10, 15, and 20 years, DNV GL worked closely with the creators of the i-Tree software to receive savings estimates out to 99 years. Based on how the calculator factors in the mortality rate of the trees, the model calculates savings out to about 70 years. For the purpose of the cost-effectiveness calculation, Idaho Power used a 30-year life.

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. While DNV GL recommended applying a spillover factor to the tree savings, it was also recommended that the spillover be applied to the heating detriment as well.

The cost-effectiveness for the program is based on the modeled savings for the tree distributed in 2019 and the costs incurred during 2019. It is estimated these trees will begin saving 20,902 kWh in 2023 and 125,113 kWh by year 2048. Based on the model, the project has a UCT ratio of 1.09 and a TRC ratio of 1.16 with the NTG of 124%.

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 1,140 Shade Tree Project participants. The company received 523 responses for a response rate of over 45%. Participants were asked how much they would agree or disagree that they would recommend the project to a friend. Nearly 96% of respondents said they “strongly agree,” and more than 4% 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% of respondents indicated they “strongly agree,” and nearly 6% “somewhat agree” they were satisfied. View the complete survey results in *Supplement 2: Evaluation*.

2020 Program and Marketing Strategies

Idaho Power plans to continue the Shade Tree Project in 2020, returning it to the Treasure Valley in the spring and Twin Falls 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 2020 *Home Energy Report*. In addition, Idaho Power maintains a waiting list of customers who were unable to enroll because previous offerings were fully enrolled. Idaho Power will reach out to these customers through direct-mail or email for the 2020 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™

	2019	2018
Participation and Savings		
Participants (products)	5,729	7,377
Energy Savings (kWh)	271,452	241,215
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	\$87,599	\$86,721
Oregon Energy Efficiency Rider	\$2,900	\$3,762
Idaho Power Funds	\$0	\$0
Total Program Costs—All Sources	\$90,499	\$90,484
Program Levelized Costs		
Utility Levelized Cost (\$/kWh)	\$0.032	\$0.034
Total Resource Levelized Cost (\$/kWh)	\$0.043	\$0.050
Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	1.40	1.44
Total Resource Benefit/Cost Ratio	5.56	4.68

Description

Initiated in 2015, the Simple Steps, Smart Savings™ program is designed to increase sales of qualified energy-efficient appliances by encouraging customers to purchase energy-efficient clothes washers by offering an incentive on select products at the point of purchase.

Idaho Power and other regional utilities participate in the program, which is managed by a third-party contractor, CLEAResult®. 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. The funding can also be used for retailer promotions.

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 through CLEAResult.

Program Activities

In 2019, select ENERGY STAR® rated clothes washers and high-efficiency showerheads qualified for this program. Prior to 2019, Idaho Power provided incentives for clothes washers only during special promotions, such as holidays or in-store events. Beginning in February 2019, the appliance promotion became a year-round activity similar to that offered for lighting and showerheads.

Appliances

In 2019, Idaho Power worked with Sears Hometown and RC Willey on the ENERGY STAR appliance promotion. Incentives were paid on 761 units. Customers who purchased a qualified ENERGY STAR clothes washer received a \$25 instant markdown.

Showerheads

In 2019, Idaho Power worked with seven participating retailers on the high-efficiency showerhead promotion. There were 4,968 qualified showerhead sales, as compared to 6,558 in 2018. Of those sales, 43% were 1.50 gpm, 10% were 1.75 gpm, and 47% were 2.0 gpm showerheads. Overall showerhead sales decreased likely because a large retailer withdrew from program participation in 2019. In 2018, that retailer sold 45% of the invoiced showerheads.

Marketing Activities

To help support the appliance promotions, static clings were displayed on all qualifying appliances (Figure 20). These pieces informed customers about the promotion and the incentive they would receive. Additionally, CLEAResult field support staffed a table at 11 appliance promotion events to educate customers and sales staff of the Idaho Power incentives.



Figure 20. Simple Steps Smart Savings program promotional static cling for appliances

CLEAResult staff continued to conduct monthly store visits in 2019 to check on stock, point-of-purchase signs, and displays. Idaho Power posted information about the appliance promotions on its Appliances web page and promoted ENERGY STAR appliances in its fall *Energy Efficiency Guide*.

Cost-Effectiveness

In 2019, Idaho Power used the same savings assumptions as were used in 2018 for showerhead savings. In early 2019, 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 2020. As with past RTF workbooks, Idaho Power adjusts the assumptions regarding electric water heating saturation from the regional average of 60% to the company's average of 49% from the 2016 residential end-use study. Previously, the annual savings for showerheads ranged between 15 to 63 kWh with the electric water heat saturation adjustment. Based on the new workbook, showerhead annual savings are now between

5 and 69 kWh. The parameters that impacted the savings for showerheads include assumptions regarding the market baseline, in-situ flow rates, and number of showers.

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 the cost did not differ significantly between similar models with varying flow rates. When Idaho Power discussed this with EEAG in 2017, they were supportive of continuing the offering to encourage customers to purchase more efficient showerhead models.

The clothes washer assumptions did not change between 2018 and 2019. 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. BPA has updated the clothes washer savings and Idaho Power will begin reporting savings of 142.29 kWh for 2020.

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

2020 Program and Marketing Strategies

BPA has announced its decision to end participation in the Simple Steps, Smart Savings program at the end of its fiscal year on September 30, 2020. Once BPA ends its participation, the program will not be available through the managing third party, CLEAResult. Idaho Power has committed to participate in the Simple Steps, Smart Savings appliance promotions and showerhead buy-down program, while they are available, through September 30, 2020.

Between now and September 30, 2020, CLEAResult will continue to manage marketing at retailers, including point-of-purchase signs. Idaho Power will notify customers of the promotions on its website, Facebook, and Twitter pages.

Weatherization Assistance for Qualified Customers

	2019	2018
Participation and Savings		
Participants (homes/non-profits)	197	193
Energy Savings (kWh)	649,299	649,505
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	\$1,303,727	\$1,272,973
Total Program Costs—All Sources	\$1,303,727	\$1,272,973
Program Levelized Costs		
Utility Levelized Cost (\$/kWh)	\$0.114	\$0.111
Total Resource Levelized Cost (\$/kWh)	\$0.171	\$0.159
Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	0.35	0.43
Total Resource Benefit/Cost Ratio	0.43	0.52

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% 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 for weatherized homes; the state hires the quality-control inspector who ensures measures were installed to DOE and state WAP specifications. 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.

For the second method, Idaho Power contracts with two companies—Kent Kearns Enterprises and Greenback Home Solutions, LLC—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. Greenback Home Solutions verifies weatherization services provided through the WAQC program in the Capital and Canyon–West regions of Idaho. 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 as set forth below in compliance with IPUC Order No. 29505, as updated in Case No. IPC-E-16-30, Order No. 33702 and consolidates the WAQC Annual Report with Idaho Power's Demand-Side Management Annual Report each year.

Program Activities

Weatherized Homes and Non-Profit Buildings by County

In 2019, Idaho Power made \$1,342,918 available to Idaho CAP agencies. Of the funds provided, \$1,186,128 were paid to Idaho CAP agencies in 2019, while \$156,791 were accrued for future funding. Of the funds paid in 2019, \$1,026,286 directly funded audits, energy efficiency measures, and health and safety measures for qualified customers' homes (production costs) in Idaho, and \$102,593 funded administration costs to Idaho CAP agencies for those homes weatherized.

The funds provided for the weatherization of 189 Idaho homes and four Idaho non-profit buildings. The production cost of the non-profit building weatherization measures was \$52,044, while \$5,204 in administrative costs were paid for the Idaho non-profit building weatherization jobs. In Oregon, Idaho Power paid \$32,919 in production costs for four qualified homes and \$3,292 in CAP agency administrative costs for homes in Malheur and Baker Counties. Table 10 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 10. WAQC activities and Idaho Power expenditures by agency and county in 2019

Agency/County	Number of Homes	Production Cost	Average Cost	Administration Payment to Agency	Total Payment
Idaho Homes					
EICAP					
Lemhi	3	\$ 11,657	\$ 3,886	\$ 1,131	\$ 12,788
Agency Total	3	\$ 11,657	\$ 3,886	\$ 1,131	\$ 12,788
EL ADA					
Ada	67	362,634	5,412	36,263	398,897
Elmore	13	82,698	6,361	8,270	90,968
Owyhee	13	71,467	5,497	7,147	78,614
Agency Total	93	\$ 516,799	\$ 5,557	\$ 51,680	\$ 568,479
Metro Community Services					
Adams	2	11,689	5,844	1,169	12,858
Canyon	37	180,100	4,868	18,010	198,110
Gem	2	14,225	7,113	1,423	15,648
Payette	2	12,975	6,487	1,297	14,272
Washington	4	55,792	13,948	5,579	61,371
Agency Total	47	\$ 274,781	\$ 5,846	\$ 27,478	\$ 302,259
SCCAP					
Cassia	1	2,387	2,387	239	2,626
Gooding	2	17,187	8,593	1,719	18,905
Jerome	2	18,679	9,340	1,868	20,547
Lincoln	4	22,309	5,577	2,231	24,540
Twin Falls	16	88,229	5,514	8,823	97,051
Agency Total	25	\$ 148,790	\$ 5,952	\$ 14,879	\$ 163,669
SEICAA					
Bannock	11	37,868	3,443	3,787	41,655
Bingham	7	23,496	3,357	2,350	25,846
Power	3	12,893	4,298	1,289	14,183
Agency Total	21	\$ 74,258	\$ 3,536	\$ 7,426	\$ 81,684
Total Idaho Homes	189	\$ 1,026,286	\$ 5,430	\$ 102,593	\$ 1,128,879
Non-Profit Buildings					
Canyon	1	10,572	10,572	1,057	11,630
Lincoln	1	14,993	14,993	1,499	16,492
Payette	1	12,555	12,555	1,256	13,811
Twin Falls	1	13,924	13,924	1,392	15,316
Total Non-Profit Buildings	4	\$ 52,044	\$ 13,011	\$ 5,204	\$ 57,249
Oregon Homes					
CCNO					
Baker	1	15,875	15,875	1,588	17,463
Agency Total	1	\$ 15,875	15,875	\$ 1,588	\$ 17,463
CINA					
Malheur	3	17,044	5,681	1,704	18,748
Agency Total	3	\$ 17,044	\$ 5,681	\$ 1,704	\$ 18,748
Total Oregon Homes	4	\$ 32,919	\$ 8,230	\$ 3,292	\$ 36,211
Total Program	197	\$ 1,111,249	\$ 5,641	\$ 111,090	\$ 1,222,339

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 2019 agreement was \$6,000. In 2019, Idaho CAP agencies had a combined average cost per home weatherized of \$5,430. In Oregon, the average was \$8,230 per home weatherized. Together, Idaho and Oregon CAP agencies weatherized 193 homes at an average of \$5,488.

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% of Idaho Power’s per-job production costs. The average administration cost paid to agencies per Idaho home weatherized in 2019 was \$543, and the average administration cost paid to Oregon agencies per Oregon home weatherized during the same period was \$823. Not included in this report’s tables are additional Idaho Power staff labor, marketing, home verification, and support costs for the WAQC program totaling \$54,982 for 2019. 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 2019, \$130,384 in unspent funds from 2018 were made available for expenditures in Idaho. Table 11 details the funding base and available funds from 2018 and the total amount of 2019 spending.

Table 11. WAQC base funding and funds made available in 2019

Agency	2019 Base	Available Funds from 2018	Total 2019 Allotment	2019 Spending
Idaho				
EICAP	\$ 12,788	\$ 0	\$ 12,788	\$ 12,788
EL ADA	568,479	0	568,479	568,479
Metro Community Services	302,259	0	302,259	302,259
SCCAP	167,405	51,955	219,360	163,669
SEICAA	111,603	41,790	153,393	81,684
Non-profit buildings	50,000	36,640	86,640	57,249
Idaho Total	\$ 1,212,534	\$ 130,384	\$ 1,342,918	\$ 1,186,128

Note: Dollars are rounded.

Weatherization Measures Installed

Table 12 details home and non-profit building counts for which Idaho Power paid all or a portion of each measure cost during 2019. 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 barriers, 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 12. WAQC summary of measures installed in 2019

	Counts		Production Costs
Idaho Homes			
Audit	137	\$	17,182
Ceiling Insulation	69		63,734
CFLs/LED Bulbs	38		2,248
Doors	81		66,674
Ducts	39		26,740
Floor Insulation	44		55,599
Furnace Repair	2		1,990
Furnace Replacement	146		571,082
Health and Safety	38		10,750
Infiltration	111		28,269
Other	11		11,830
Pipes	9		429
Refrigerator Replacement	1		861
Vents	7		708
Wall Insulation	5		1,603
Water Heater	6		16,158
Windows	89		150,427
Total Idaho Homes		\$	1,026,286
Oregon Homes			
Ceiling Insulation	1		3,258
Ducts	2		1,545
Floor Insulation	3		14,729
Furnace Replacement	1		4,650
Health and Safety	1		3,542
Infiltration	2		1,195
Windows	1		4,000
Total Oregon Homes		\$	32,919
Idaho Non-Profits			
Audit	4		1,585
Ceiling Insulation	3		10,626
Floor Insulation	2		1,535

	Counts	Production Costs
Furnace Replacement	2	23,092
Health and Safety	2	420
Infiltration	1	2,320
Other	1	209
Pipes	2	266
Vents	1	42
Wall Insulation	2	9,596
Water Heater	1	2,353
Total Idaho Non-Profit Measures		\$ 52,044

Note: Dollars are rounded.

Marketing Activities

Idaho Power developed and distributed a newly designed brochure that provided information about the WAQC program. The new brochure is also available in Spanish. Website content was updated to help customers easily understand which weatherization program they may qualify for, depending on household income and whether they live in Idaho or Oregon. 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. Weatherization was featured in two live television segments in July—one in Boise on KTVB and one on KMVT in Twin Falls.

Cost-Effectiveness

Program cost-effectiveness declined in 2019 from both the UCT and TRC perspective due to the adoption of the 2017 IRP DSM alternate cost assumptions. The UCT declined from 0.43 to 0.35, while the TRC decreased from 0.52 to 0.43.

There were no changes to the values used for reporting between 2016 to 2019. The savings values were updated in 2016 to better align savings by home type and measures installed with the associated installation costs. In late 2019, Idaho Power retained Nexant to conduct a billing analysis of program participants to update savings assumptions for 2020. The results of this study will be available in 2020.

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% 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 2019 cost-effectiveness analysis continues to incorporate the following directives from IPUC Order No. 32788:

- Applying a 100% NTG value to reflect the likelihood that WAQC weatherization projects would not be initiated without the presence of a program
- Claiming 100% of project savings
- Including an allocated portion of the indirect overhead costs
- Applying the 10% 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 2019, home verifiers randomly selected and visited 32 homes, requesting feedback about the program. When asked how much customers learned about saving electricity, 24 customers answered they learned “a lot” or “some.” When asked how many ways they tried to save electricity, 24 customers responded “a lot” or “some.” Eight customers did not answer, but several provided positive comments about the program.

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 189 of 193 households weatherized by the program in 2019. Of the 189 completed surveys, 185 were from Idaho customers, and four were from Oregon customers. Some highlights include the following:

- Nearly 36% of respondents learned of the program from a friend or relative, and over 17% learned of the program from an agency flyer. Nearly 12% learned about the weatherization program from direct-mail.
- Almost 76% of the respondents reported their primary reason for participating in the weatherization program was to reduce utility bills, and nearly 41% wanted to improve the comfort of their home.

- Over 75% reported they learned how air leaks affect energy usage, and nearly 58% indicated they learned how insulation affects energy usage during the weatherization process.
- Sixty percent of respondents said they learned how to use energy wisely. Nearly 89% reported they were very likely to change habits to save energy, and almost 77% reported they have shared all the information about energy use with members of their household.
- Almost 94% of the respondents reported they think the weatherization they received will significantly affect the comfort of their home, and over 97% said they were very satisfied with the program.
- Seventy-nine percent of the respondents reported the habit they were most likely to change was turning off lights when not in use, and almost 67% 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% of the respondents, and turning the thermostat down in the winter was reported by more than 65% 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*.

2020 Program and Marketing Strategies

In 2020, 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% of the homes weatherized under the WAQC program via home-verification companies.

In 2020, 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 2020, Idaho Power expects to contribute the base amount plus available funds from 2019 to total \$1,369,325 in weatherization measures and agency administration fees. Of this amount, \$79,391 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 content on its website and other marketing collateral.

In 2019, Idaho Power contracted with a third party to perform a billing analysis of homes were weatherized between 2016 and 2018 under the WAQC and Weatherization Solutions for Eligible Customers programs. The company expects the final report and analysis in 2020, which it will use to update the savings estimates for these program participants.

Weatherization Solutions for Eligible Customers

	2019	2018
Participation and Savings		
Participants (homes)	129	141
Energy Savings (kWh)	504,988	571,741
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	\$936,721	\$998,233
Oregon Energy Efficiency Rider	\$0	\$0
Idaho Power Funds	\$20,905	\$24,237
Total Program Costs—All Sources	\$957,626	\$1,022,471
Program Levelized Costs		
Utility Levelized Cost (\$/kWh)	\$0.119	\$0.112
Total Resource Levelized Cost (\$/kWh)	\$0.119	\$0.112
Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	0.30	0.37
Total Resource Benefit/Cost Ratio	0.43	0.51

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% and 250% 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% 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 2019, contractors weatherized 129 Idaho homes for the program: 16 in eastern Idaho by Savings Around Power and Energy Solutions; 47 in Idaho Power's Canyon–West Region by Metro Contractor Services, LLC.; 41 in south-central Idaho by Home Energy Management, LLC (HEM-LLC); and 25 in the company's Capital Region by Power Savers. Of those 129 homes weatherized, 70 were single-family, 45 were manufactured homes, and 14 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 316,152 residential customers in Idaho and another was mailed to 305,805 in September. The program was promoted at events targeting customers with limited incomes, including seniors. An ad and article promoted the program in the *Senior BlueBook* in its annual edition published in the summer. Newspaper ads were placed in Sunday editions of the *Idaho State Journal* in March and July and in the *Idaho Statesman* in July.

Idaho Power ran a Facebook ad in June and July 2019, and regular Facebook and Twitter posts throughout the year, including publishing recent weatherization participant thank you notes. The June and July ads reached 23,096 people and had 103,228 impressions. Weatherization tips for all customers were also mentioned in various social media posts, and Idaho Power promoted Weatherization Solutions with a Facebook post and *News Briefs* to regional media on National Weatherization Day.

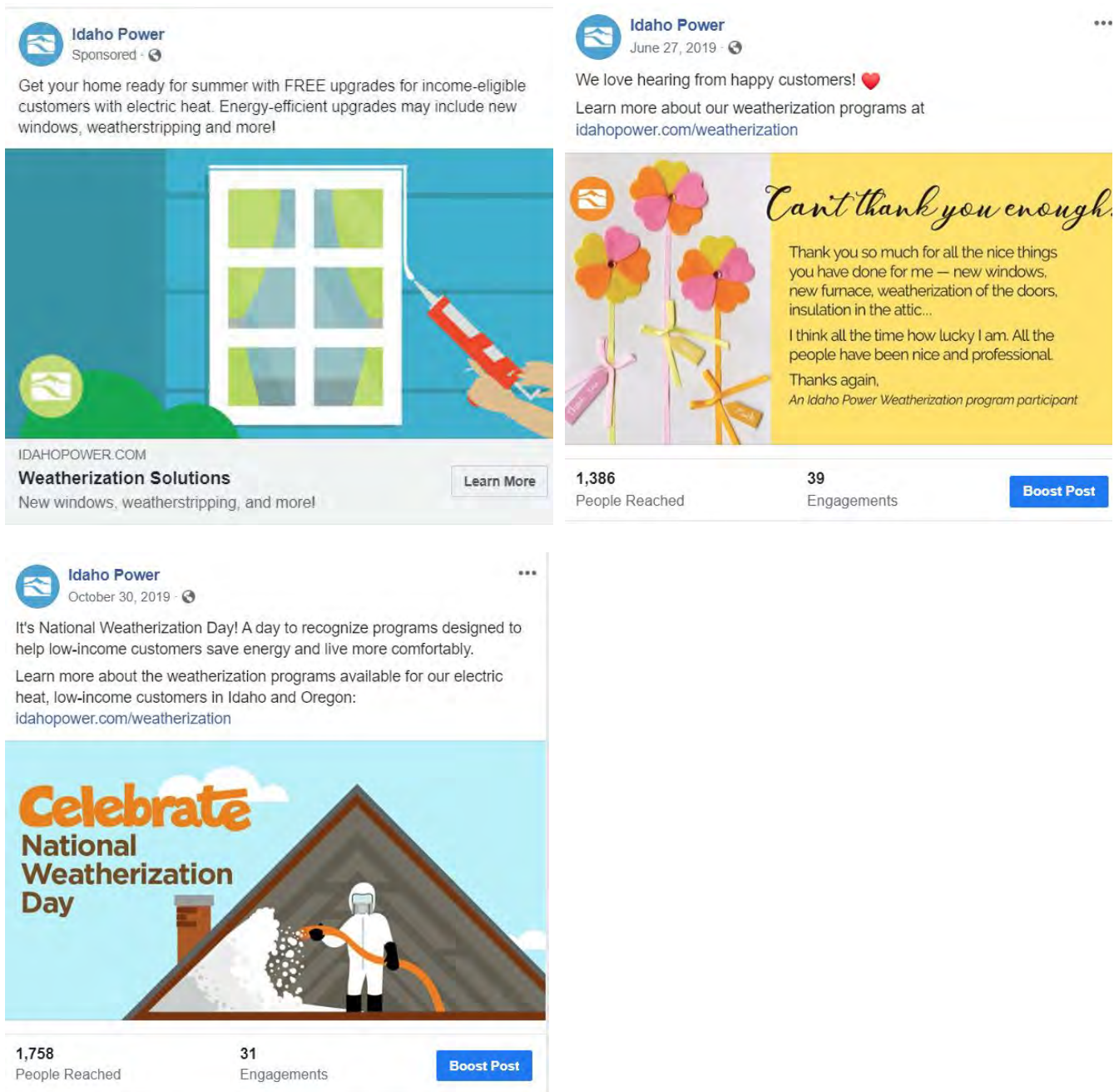


Figure 21. Social media posts for Weatherization Solutions for Eligible Customers program

A walk-through process for easy ways to weatherize your home was a feature story in the fall *Energy Efficiency Guide*, with a link to more information for low-income customers to participate in the program. The *Energy Efficiency Guide* was distributed in all local newspapers across Idaho Power’s service area and has been made available as handouts for events.

Weatherization was featured in two live television segments in July—one in Boise on KTVB and one on KMVT in Twin Falls. Using email as a tactic for the first time, Idaho Power emailed 14,320 potential low-income, all-electric customers in June. The email earned 599 link clicks, sending customers to Idaho Power’s updated Weatherization web page, which provided easier-to-understand qualifications and sign-up information.

The design of all marketing materials, including the brochure, graphics, bill insert, and ads was updated in 2019 to fit the new residential campaign design.

Idaho Power's energy advisors promoted the program at meetings and events in their communities. The program specialist and energy advisors 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 and the Multifamily Energy Savings Program.

Cost-Effectiveness

Benefit-cost ratios decreased in 2019 due to the adoption of the 2017 IRP DSM alternate cost assumptions. The 2019 UCT ratio is 0.30, down from 0.37, and the TRC ratio is 0.43 compared with 0.51 in 2018.

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 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 2020 from the billing analysis conducted by a third party.

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
- The likelihood of household members changing behaviors to use energy wisely

Idaho Power received survey results from 119 of 129 households weatherized by the program in 2019. Some highlights include the following:

- Over 10% of respondents learned of the program from a friend or relative, and another almost 13% learned of the program from an agency flyer. Nearly 55% learned about the weatherization program from direct-mail.

- Over 76% of the respondents reported their primary reason for participating in the weatherization program was to reduce utility bills, and almost 34% wanted to improve the comfort of their home.
- Over 83% reported they learned how air leaks affect energy usage, and nearly 71% indicated they learned how insulation affects energy usage.
- Nearly 70% of respondents said they learned how to use energy wisely. Over 67% reported they were very likely to change habits to save energy, and almost 63% reported they have shared all the information about energy use with members of their household.
- Nearly 81% of the respondents reported they think the weatherization they received will significantly affect the comfort of their home, and over 97% said they were very satisfied with the program.
- Almost 67% of the respondents reported the habit they were most likely to change was turning off lights when not in use, and over 48% 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 49% of the respondents, and turning the thermostat down in the winter was reported by more than 54% 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 2019, 34 homes were verified, and 17 of those customers reported they learned “a lot” or “some” about saving electricity in their home. Seventeen customers reported they had tried “a lot” or “some” different ways to save electricity in their home. Several customers did not answer one or both of the questions but commented about how the program helped lower their energy bills and made a difference in the comfort of their home.

2020 Program and Marketing Strategies

Idaho Power does not anticipate any program operating changes in 2020. 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, emails, *News Briefs*, website updates, and advertisements in various regional publications, particularly those with a senior and/or low-income focus. Social media posts and boosts, coordinated partner content, and employee education will be used to increase awareness. Regional marketing and targeted digital ads will be considered 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.

Idaho Power will receive the final analysis and report from a third party who was contracted in 2019 to perform a billing analysis of home weatherized between 2016 and 2018 under the WAQC and Weatherization Solutions for Eligible Customers programs. Through this analysis, the company will be able to update the savings estimates for these program participants.

Commercial/Industrial Sector Overview

In 2019, Idaho Power's commercial sector consisted of 72,332 average annual commercial, governmental, school, and small business customers. This number of average annual customers increased by 1,228 or 1.7% from 2018. Energy use per month for customers in this sector is not as homogenous as other customer sectors and can vary by several hundred thousand kWh each month depending on customer type. In 2019, the commercial sector represented 28% of Idaho Power's total retail annual electricity sales.

Industrial and special contract customers are Idaho Power's largest individual energy consumers. In 2019, there were 127 customers in this category, which represented approximately 23% of Idaho Power's total retail annual electricity sales.

Idaho Power's Commercial and Industrial sector has many energy efficiency programs available to commercial, industrial, governmental, schools, and small business customers. The suite of options can help businesses of all sizes implement energy efficiency measures.

Programs

Commercial and Industrial Energy Efficiency Program

New Construction

This option offers specific incentives for designing and building better-than-code energy-efficient features into a new construction, major renovation, addition, expansion or change-of-space project. In 2019, Idaho Power contracted with DNV GL to conduct an impact evaluation of the New Construction option.

Retrofits

This option offers specific incentives for simple energy-saving retrofits to existing equipment or facilities. In 2019, Idaho Power contracted with DNV GL to conduct an impact evaluation of the Retrofits option.

Custom Projects

For projects not covered by the New Construction or Retrofits options, this option offers incentives for qualifying large, custom energy efficiency projects and energy management measures, such as strategic energy management, tune-ups, system optimization, and recommissioning.

Additionally, Idaho business customers who wish to find ways to save energy and to quantify their savings can obtain a scoping audit and detailed assessment (audit/assessment) through this option.

In 2018, Idaho Power contracted with Tetra Tech to conduct an impact evaluation on the Custom Projects option. See the C&I Energy Efficiency Program section for the company's responses to the evaluation recommendations.

Commercial Energy-Saving Kits

This program offers free ESKs filled with products and tips to help small businesses save energy. Three industry-specific versions of the kit are delivered directly to Idaho Power's small business customers: office, restaurant, and retail.

Small Business Direct Install

Idaho Power launched a Small Business Direct Install program (SBDI) in November targeting typically hard-to-reach small business customers. SBDI is implemented by a third-party contractor that provides turn-key services. Idaho Power pays 100% of the cost to install eligible measures for customers who use 25,000 kWh annually or less. SBDI is expected to be a three-year program and offered to eligible customers in a strategic geo-targeted approach. The SBDI launched in November and has no energy savings results for 2019. Idaho Power will report SBDI program successes in the *Demand-Side Management 2020 Annual Report*.

Oregon Commercial Audits

This statutory-required program offers free energy audits, evaluations, and educational products to Oregon customers to help them achieve energy savings.

Flex Peak

Idaho Power pays an incentive to commercial and industrial customers who participate in this demand response program. These customers voluntarily help the company reduce summer demand on specific summer weekdays or for other system needs.

Table 13. Commercial/industrial sector program summary, 2019

Program	Participants	Total Cost		Savings	
		Utility	Resource	Annual Energy (kWh)	Peak Demand (MW)
Demand Response					
Flex Peak Program	145 sites	\$ 626,823	\$ 626,823		31
Total		\$ 626,823	\$ 626,823		31
Energy Efficiency					
C&IEE					
Custom Projects	257 projects	11,879,873	24,590,176	70,433,920	
Green Motors—Industrial.....	12 motor rewinds			117,223	
New Construction	168 projects	3,548,476	5,292,835	20,640,334	
Retrofits	1,033 projects	6,281,056	17,700,769	42,674,418	
Commercial Energy-Saving Kit	2,629 kits	161,945	161,945	569,594	
Total		\$21,871,350	\$ 47,745,725	134,435,489	

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

Marketing

In 2019, Idaho Power continued to market the programs listed above, targeting the following customers: commercial, industrial, governmental, schools, small businesses, architects, engineers, and other design professionals.

Direct-Mail and Bill Inserts

A bill insert highlighting how Idaho Power's incentives can save customers money was included in 35,709 business customers' bills throughout March and April. A similar bill insert was sent in 35,195 business customers' bills in August to promote the C&I Energy Efficiency Program.

In preparation for the launch of the SBDI program, Idaho Power developed a direct-mail letter, flyer, postcard, talking points, and scripts. Idaho Power also sent a direct-mail letter to eligible Aberdeen customers in November for the program's soft launch.

Print Advertising

In 2019, Idaho Power launched the first ads in the company's new ad campaign (Figure 22) for the C&I Energy Efficiency Program, featuring program participants in their businesses. The ads targeted small to large businesses and showed that saving energy and money is for everyone. The company also began using ads (Figure 23) highlighting energy efficiency, along with the company's clean energy and low prices messaging in select publications.



POWER
your profits

Shore Lodge in McCall earned cash incentives for upgrading to more efficient equipment — a smart choice that also saves them energy and money on their power bill.

With Idaho Power's energy efficiency programs, your business can earn incentives on upgrades that will save you even more in the future. Building with or installing efficient equipment is good for your customers, employees and your bottom line!

See how easily you can save:
idahopower.com/business

IDAHO POWER.
An IDACORP Company

Figure 22. Ad for energy-saving programs for small business customers



WE HAVE
PLENTY OF ROOM
TO GROW!

With incentives to help you save energy and money.

Idaho Power has the resources to take your business to the next level:

- Our business prices are 30% below the national average.
- Nearly 50% of our energy comes from clean, renewable hydropower.
- We offer cash incentives for businesses of all sizes who design and build facilities with energy efficient technologies, systems and strategies.
- We award about \$13 million annually to businesses who participate in energy-saving programs.

Clean today.
Cleaner tomorrow.™

We've set a goal to provide 100% clean energy by 2045.



idahopower.com/econdev

Figure 23. Ad for energy-saving incentives for commercial customers

The ads ran in the *Idaho Business Review* in April, May, August, September, October, and November; *Idaho Business Review Square Feet* in January, April, and July; the *BOC Bulletin* in February and August; *Alaska Airline's Alaska Beyond Magazine* in April and August; and the new *Idaho Association of General Contractors* magazine in the fall. 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.

Newsletters

In March, Idaho Power conducted a survey of its email newsletter recipients to determine if they found the content valuable, what type of content they were interested in reading, and how often they would like to receive the newsletter. In May, rather than using a third-party contactor, Idaho Power began producing its email newsletter and renamed it *Energy@Work* to better align with the printed version of the newsletter. The printed version is produced twice a year, while the email version is produced quarterly. Two issues of the email version include content that aligns with the printed version, and the other two issues include more technical content.

The printed version of the newsletter was sent to 24,157 customers in April and 24,505 customers in November. Content included information on the Governor's Award for Energy Efficiency, the company's clean energy goal and energy mix, Idaho Power's 2018 year in review, the Flex Peak program, Commercial ESKs, customer success stories, how Idaho Power's energy prices compare to prices nationally, electric vehicles, scams, and motor protection.

The email version of the newsletter was sent to 10,959 customers in May, 10,920 customers in July, 11,618 customers in October, and 11,603 customers in December. The May and October content was similar to the printed content listed above. The more technical content in the July and December issues included training opportunities, information on a toolkit to help small commercial buildings achieve retro-commissioning at scale, results of a local school comfort study, an HVAC strategy to optimize for unoccupied times, and information about dedicated outdoor air systems, Idaho Power's school cohort, and price decreases.

Print Materials

In 2019, Idaho Power finished updating its industry-specific tip brochures to incorporate recommendations from the C&I Energy Efficiency Program's previous process evaluation. The brochures discuss NEBs, the energy-use breakdown for the facility type (highlighted at the top), and how to make the most energy-intensive systems more efficient. The company updated program-related brochures for restaurants, schools, healthcare, grocery, convenience stores, retail, and hotels. The company also created new tip brochures for dairies, and breweries and wineries.

Airport Advertising

In 2019, approximately 4 million people traveled through the Boise Airport; according to airport officials, half of them were traveling for business. To reach business customers, Idaho Power placed two backlit display ads throughout the airport in 2019. An ad featuring program participants was located in the baggage claim area, while an ad on alternating airport display boards highlighted the company's clean energy goal—Clean Today. Cleaner Tomorrow.[®]—and the role that energy efficiency plays in achieving that goal. The company also placed ads on the airport's TV screens from January through mid-June.

Radio

New in 2019, Idaho Power sponsored messages on public radio stations in Boise, Twin Falls, and Pocatello from July through September. The company ran a total of 385 messages in Boise and Twin Falls, and 513 messages in Pocatello.

Digital

Beginning in August 2019, Idaho Power launched search engine marketing to display Idaho Power's C&I Energy Efficiency Program near the top of the search results with the paid search terms when customers search for energy efficiency business terms. From August through December, these ads received 39,540 impressions and 1,043 clicks.

The company ran digital ads on the *Idaho Business Review* website and sponsored the online *Business News* section of their website for the year. These ads received 340,234 impressions and 1,548 clicks to the Idaho Power Savings For Your Business web page.

The company also developed and launched a web page in October specific to the new SBDI program.

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 programs 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 also boosted Facebook posts related to some of the public relations success stories and check presentations listed below.

The company continued using paid LinkedIn ads to promote the C&I Energy Efficiency Program. Several of the ads promoted all of the C&I Energy Efficiency Program offerings in a carousel format (Figure 24) that allowed users to click through and view each offering. 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 84,000 individuals. The ads resulted in 368,593 impressions and 2,650 website clicks.

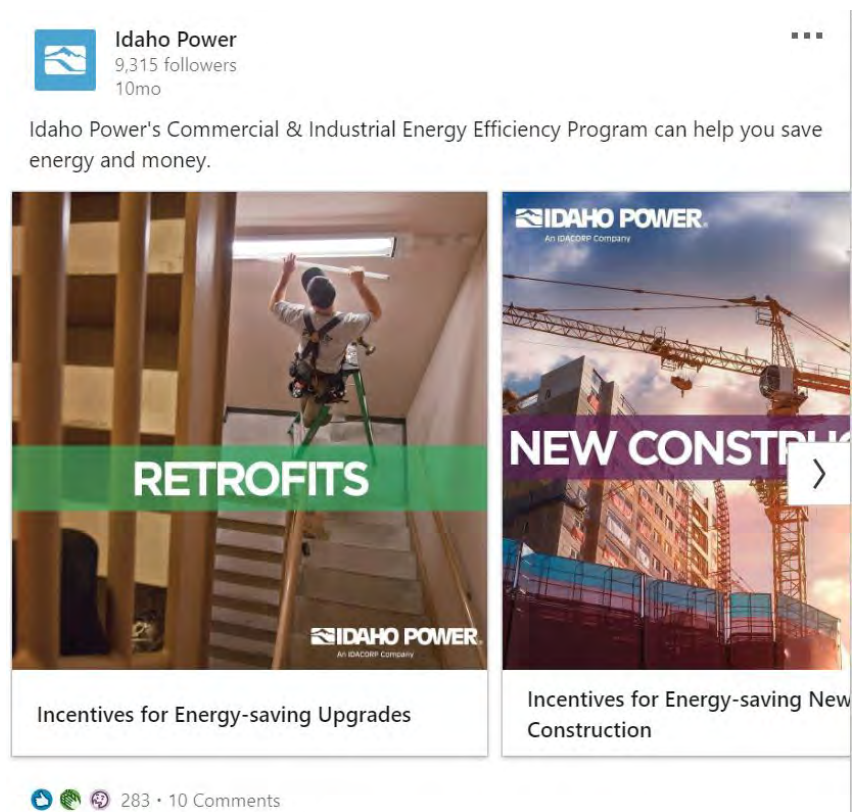


Figure 24. C&I Energy Efficiency Program ad on LinkedIn

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 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 2019, Idaho Power produced checks and/or sent news releases for several companies and organizations, including the city of Jerome, Boise Centre, ON Semiconductor, Idaho College of Osteopathic Medicine (ICOM), Lamb Weston, Wendell School District, city of McCall, and the Idaho State Museum.

The incentives and savings that businesses realize through energy efficiency are put to a variety of uses. The ICOM (Figure 25) recently used their incentive to invest in their students—our future doctors. Dr. Tracy J. Farnsworth, ICOM President said:

I am extremely proud our college has taken these important steps to conserve energy throughout the facility. I am also proud to announce the rebate ICOM received from Idaho Power will be used to support our student-doctors in the form of financial awards to help offset the cost of tuition as they pursue their goal of becoming physicians.



Figure 25. Check presentation to the Idaho College of Osteopathic Medicine

The company also released a success story video on YouTube highlighting how the South Meridian YMCA and its members benefitted from Idaho Power's energy efficiency programs. The video was shared on Idaho Power's social media channels, the *Connections* newsletter, a *News Briefs* article to media, and the *Energy@Work* newsletter.

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 the Air Conditioning Engineers (ASHRAE) Technical Conference.

Idaho Power sponsored the BOMA Commercial Real Estate Symposium February 12, in Boise. The Idaho Power Customer Relations & Energy Efficiency senior manager spoke about how the company is positioned to manage growth with clean energy, low prices, reliable service, and energy efficiency, and demand-response programs. The company also developed slides with key company facts that rotated on the screen before the event, hosted a booth with energy efficiency materials, and placed an energy efficiency flyer on each table setting.

Customer Satisfaction

Idaho Power conducts the Burke Customer Relationship Survey each year. In 2019, 63% of small business survey respondents indicated Idaho Power is meeting or exceeding their needs with information on how to use energy wisely and efficiently.

Seventy-one percent of small business respondents indicated Idaho Power is meeting or exceeding their needs by encouraging energy efficiency with its customers. Fifty-eight percent of Idaho Power small business customers surveyed in 2019 indicated the company is meeting or exceeding their needs in offering energy efficiency programs, and 20% 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, 95% are "very" or "somewhat" satisfied with the program.

In 2019, 59% 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-five percent of large commercial and industrial respondents indicated Idaho Power is meeting or exceeding their needs by encouraging energy efficiency with its customers. Sixty-four percent of Idaho Power large commercial and industrial customers surveyed in 2019 indicated the company is meeting or exceeding their needs in offering energy efficiency programs, and 76% 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, 96% are "very" or "somewhat" satisfied with the program.

Training and Education

In 2019, 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* newsletters. Also, key account energy advisors and program energy efficiency engineers emailed training announcements to existing customers.

During each training session, a key account energy advisor gave an overview of the commercial and industrial programs available to customers.

As part of this outreach activity, Idaho Power collaborated with and supported stakeholders and organizations such as: IDL, BOMA, US Green Building Council (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 TLL.

Idaho Power delivered eight days of technical classroom-based training sessions in 2019 at no cost to the customers. Of the sessions, one was a two-day class and the others were one-day classes. Topics included the following:

- Commercial/Industrial Motor Efficiency (Boise)
- Commercial/Industrial Adjustable Speed Drives (Boise)
- HVAC Controls Training (Twin Falls), two-day class
- Introduction to Unitary Air Conditioning (Nampa)
- Advanced Unitary Air Conditioning (Nampa)
- Fan Assessment Training (Pocatello)
- Retro-Commissioning Sensor Suitcase Training (Boise)

The level of participation in 2019 remained high, with 211 attendees for the technical sessions. Customer feedback indicated the average satisfaction level was 93%. Idaho Power's average cost to deliver the technical trainings in 2019 was approximately \$5,909 per class.

Idaho Power paid at least 50% of the cost for Idaho Power customers to take part in IBOA educational classes including the Building Operator Certification (BOC) Level 2 (consisting of seven, day-long classes). In 2019, 14 Idaho Power customers attended the Level 2 classes.

Field Staff Activities

Idaho Power field staff are on site with customers each day. Idaho Power energy advisors use 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 energy advisors 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 field energy advisors to leverage established customer relationships. For example, residential and commercial energy advisors 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

	2019	2018*
Participation and Savings**		
Participants (projects/kits)	1,470	3,387
Energy Savings (kWh)***	133,865,895	95,759,049
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source****		
Idaho Energy Efficiency Rider	\$21,111,360	\$16,281,639
Oregon Energy Efficiency Rider	\$545,544	\$720,714
Idaho Power Funds	\$52,501	\$12,156
Total Program Costs—All Sources	\$21,709,405	\$17,014,509
Program Levelized Costs		
Utility Levelized Cost (\$/kWh)	\$0.013	\$0.015
Total Resource Levelized Cost (\$/kWh)	\$0.030	\$0.032
Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	3.56	3.75
Total Resource Benefit/Cost Ratio	2.00	1.87

* In 2018, Commercial ESKs were included in reported program participants, energy savings, and dollars. Numbers included 1,652 Commercial Energy-Saving Kits totaling 442,170 kWh and \$146,174, which are now broken out separately in its own section in this report.

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

***2019 total includes 117,223 kWh of energy savings from 12 Green Motors projects.

****2019 dollars include totals for New Construction, Custom Projects, and Retrofits.

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.

Custom Projects

The Custom Projects option provides incentives for energy efficiency modifications to 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 also offers energy assessment/audit 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 identified by the customer, Idaho Power, or 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. 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 this verification process, the 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 project scope take place, Idaho Power will recalculate energy savings and incentive amounts based on the actual installed equipment and performance.

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.

New Construction

The New Construction option enables customers in Idaho Power's Idaho and Oregon service areas to incorporate 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 thirty-three measures and incentives for efficient lighting, cooling, the building shell, controls, appliances, electric water heating, refrigeration, office equipment, and compressed air projects. The customer may otherwise lose savings opportunities for these types of projects.

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*.

Program Activities

Idaho Power has found providing facility energy assessments/audits, customer technical training, and education services are key to encouraging customers to consider energy efficiency modifications. The 2019 activities not already described in the Commercial and Industrial Sector Overview are below.

Custom Projects

In 2019, Idaho Power made several improvements to the C&I Energy Efficiency Program in response to recommendations from the *Custom Projects Impact Evaluation (2018)* by Tetra Tech. Changes are detailed in the Custom Projects Process Improvements subsection below. The complete evaluation report is available in Idaho Power's *Demand-Side Management 2018 Annual Report: Supplement 2: Evaluation*.

Incentive levels for the non-lighting projects remained the same in 2019, at 18 cents per kWh of first-year savings, up to 70% of the project cost. The Custom Projects option had a successful year with a total of 257 completed projects, 11 of which were in Oregon. Custom Projects achieved energy savings of 70,434 MWh (Table 14). Energy savings increased in 2019 by 50% over 2018. Idaho Power also received 184 new applications representing a potential of 72,504 MWh of savings on future projects.

Table 14. Custom Projects annual energy savings by primary option measure, 2019

Option Summary by Measure	Number of Projects	kWh Saved
Retro-commissioning	3	3,544,308
Energy Management.....	21	6,545,734
Compressed Air	15	4,116,710
Controls.....	2	353,474
HVAC	6	3,016,485
Lighting	166	23,235,342
Other	3	7,679,559
Pump.....	3	5,488,869
Refrigeration.....	15	12,369,982
Variable Frequency Drive (VFD)	23	4,083,457
Total*	257	70,433,920

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

Custom Projects engineers and the key account energy advisors 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 2019 Idaho Rural Water Conference, the 2019 Idaho Reuse and Operators Conference, and the 2019 ASHRAE Technical Conference. Custom Projects engineers gave presentations on Idaho Power programs and offerings at the Cohort for Schools Mid-term and Final Workshops, 2019 Idaho Rural Water Conference, 2019 Idaho Reuse and Operators Conference, 2019 NEEA Efficiency Exchange, and the 2019 American Council for an Energy-Efficient Economy (ACEEE) Summer Study on Energy Efficiency in Industry.

Idaho Power funds the cost of engineering services, up to \$4,500, for conducting energy scoping assessments/audits to encourage its larger customers to adopt energy efficiency improvements. Idaho Power contracted with five firms to provide scoping assessments/audits and general energy efficiency engineering support services.

In 2019, Idaho Power contractors initiated 29 scoping audits/assessments and seven detailed assessments/audits on behalf of Idaho Power customers. These assessments/audits identified almost 17,000 MWh of savings potential and will be used to promote future projects.

Cohorts and Offerings

The Municipal Water Supply Optimization Cohort (MWSOC), Wastewater Energy Efficiency Cohort (WWEEC), and Continuous Energy Improvement (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 2019, Custom Projects continued five offerings in an effort to increase the total program savings: the four listed above and the Eastern Idaho Water Cohort in a joint effort with BPA and Rocky Mountain Power. Each is described below.

Municipal Water Supply Optimization Cohort

The MWSOC began 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 that produce long-term energy and cost savings.

Second-year incentives and savings totaled \$22,105 and 569,568 kWh/year with most incentives paid at 70% of the eligible cost. Second-year incentives were processed, and savings were reported in 2019. Some participants completed capital projects that were encouraged and discussed in workshops and energy assessments/audits. These capital projects' savings are significant and recorded as Custom Projects savings, not as MWSOC savings.

Idaho Power offered to continue the cohort for 11 of the original 15 participants. Idaho Power offered two continuation workshops in 2019. Idaho Power's contractor contacted participants to check on project progress and opportunities and to address energy model data updates. Custom Projects engineers conducted multiple informational meetings for civil engineers who specialize in water and wastewater designs to educate them on the C&I Energy Efficiency Program, the assessment/audit process, energy efficiency opportunities, and available tools and resources. A draft third-year report is expected in 2020.

Wastewater Energy Efficiency Cohort

In January 2014, Custom Projects launched WWEEC, a two-year cohort training approach and incentives for low-cost or no-cost energy improvements for 11 municipal wastewater facilities in Idaho Power's service area. In 2016, Idaho Power decided to extend the WWEEC to further engage customers. Seven of the 11 original participants are engaged in the WWEEC Continuation with many of the original participants starting major construction projects in years two and three of WWEEC.

Third-year incentives and savings were processed and reported in 2019, totaling \$1,349 and 895,492 kWh/yr. No project-level incentives exceeded 70% of the eligible costs. Fourth-year incentives and savings, also processed and reported in 2019, totaled \$638 and 901,315 kWh/year and did not exceed 70% of the eligible costs. Some WWEEC participants completed capital projects that were promoted in workshops and energy assessments/audits. These capital projects' savings are significant and are reported separately as Custom Projects, not as a WWEEC savings number. In the third and fourth year, the consultant minimally contacted participants to check on progress, discuss opportunities, to address energy model data updates.

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. The second year of the Cohort for Schools ran from January 2018 through May 2019. Six school districts of the original nine continued to implement CEI concepts and planned activities for the cohort. The cohort is implemented by a third-party consultant that provided final savings reports which showed a total second-year energy savings of 3,755,858 kWh/yr.

After second-year reports were reviewed by Idaho Power and incentives paid to the participants, activities were suspended until third-year activities commenced in fall 2019. One school district

withdrew from the cohort at the end of 2018, the remaining five continued into 2019. Of those five, three districts are now modeling all schools in their district, one district added five new facilities to the cohort, and another added three.

Activities in 2019 included managing a register of energy efficiency opportunities for each facility detailing low-cost and no-cost opportunities to reduce energy consumption. The consultant worked with each participant to complete as many opportunity register items as possible. Afterward, the consultant checked in monthly by phone to review opportunity register items and to discuss current activities. Additionally, Idaho Power initiated scoping assessments/audits for each new facility to identify capital project opportunities to aid the strategic capital planning process. Idaho Power provided program and incentive information, both in hard copy and electronically, along with many other energy-saving resources pertinent to school facilities.

Over the summer of 2019, recruiting began for new participants. Twelve new school districts showed initial interest, and five have begun participating. These districts are developing their energy teams, building initial facility energy models, and going through training on various aspects of CEI and energy efficiency. A mid-term workshop is scheduled for January 8, 2020, where school districts will report their results through the end of 2019.

Third-year activities will continue until May 31, 2020. Idaho Power will then review final M&V reports to establish energy savings and eligible costs for the third-year activities and will distribute the corresponding incentives to participating school districts.

Streamlined Custom Efficiency

Started in 2013, the SCE offering continues to keep vendor engagement high, targeting projects that may have typically been too small to participate in the Custom Projects option. Currently, the SCE offering provides custom incentives for refrigeration controllers for walk-in coolers, process-related VFDs, and some other small, vendor-based projects that do not qualify for prescriptive 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 has continued to support vendors and customers working with these measures to ensure the correct incentive paperwork and supporting information is submitted to the prescriptive programs. If these projects do not qualify for prescriptive incentives but are cost-effective, they are routed through the SCE process for review.

Idaho Power contracted with a third party to manage SCE data collection and analysis for each project. In 2019, the SCE offering processed 34 projects totaling 4,401,474 kWh of savings and \$624,422.25 in incentives.

Eastern Idaho Water Cohort

The Eastern Idaho Water Cohort began in January 2018 with the goal to offer the MWOSC to the eastern part of Idaho Power's 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. First-year incentives were processed, and savings were reported in 2019

totaling \$11,979 and 423,501 kWh/yr. In the second year 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 of the second-year energy savings report is expected in 2020.

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% of the cost of a new motor. The GMI is available to Idaho Power’s agricultural, commercial, and industrial customers.

Currently, nine motor service centers have signed on as GMPG members in Idaho Power’s service area. Under the initiative, Idaho Power pays service centers \$2 per horsepower (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 the customer 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 QA.

In 2019, a total of 12 C&I customers’ motors were rewound, and the savings for the Green Rewinds is 117,223 kWh.

Custom Projects Process Improvements

In 2019, Idaho Power responded to the five recommendations for the Custom Projects option from the 2018 impact evaluation. The recommendations have been addressed as follows:

- Collect and file electronic calculators—this recommendation is in regard to SCE projects and the supporting Excel-based calculators used to estimate energy savings. The consultant managing SCE projects has now been asked to provide the electronic calculators for all future SCE projects.
- Consider including post-verification customer follow-up for control-based projects—due to variation in savings for projects with controls and the potential for backsliding, along with the value Idaho Power places on customer relationships, the evaluator recommended post-verification visits to discuss control settings and the potential adjustment impacts. This recommendation has led the company to add a new “Maintaining Savings” section to the letters it sends to customers when projects are completed. This section lists the primary control settings and other operational parameters that affect energy savings. The managing consultant also sends SCE project participants an email with the “Maintaining Savings” information.
- Review goals for the Streamlined Custom Efficiency process—quarterly meetings were held with the managing consultant throughout 2019 with a focus on reviewing goals and adjusting where appropriate. This has led to improved reporting and tracking as well as to the development of new vendor relationships and potential SCE projects.

- Continue close communications with Wastewater Cohort contacts—Idaho Power will continue to maintain communication with Wastewater Cohort contacts through the cohort continuation and the key account energy advisor.
- Review the following energy calculation components for improved accuracy.
 - Use RTF method for New Construction Baseline—through the Custom Project option each project baseline is considered on a case-by-case basis with care to model the site-specific situation as accurately as possible. The results are more accurate when using the existing operation of a specific custom project than when using an average baseline. Current energy codes, RTF baselines, and other industry standards are used and deemed most appropriate for a given situation.
 - Use rated capacity and wattage for equipment—this recommendation is followed in general, and a change in review practices is not warranted. After further review of this recommendation with the evaluator, it was determined this recommendation stemmed from an HVAC and a lighting project. Idaho Power uses rated capacity for HVAC and lighting equipment in savings calculations. Multiple sources often exist for equipment’s rated capacity. The evaluator used a different source than Idaho Power, which made a slight difference on a couple of the projects.
 - Consider requiring a pump curve submission for pumping projects—Pumps curves are being requested whenever they are available. Idaho Power does use pump curves for helping calculate energy savings on pumping projects. However, in some cases they are unavailable due to missing customer or vendor records or an inaccessible well pump. Since results from the evaluation were received, Idaho Power has instructed its contractor for SCE projects to specifically provide pump curves on all pump-related projects where possible. These were being submitted in most cases, but have now officially been requested for all projects involving pumps.
 - Monitor specific dairy projects for adjustments to incoming milk temperature—for projects associated with cooling milk, it was suggested that an incoming milk temperature of 95°F be used in lieu of 98°F. This recommendation has been provided to the consultant managing SCE projects and will be used for future milk-cooling projects.

New Construction

In 2019, 168 projects were completed, resulting in 20,640,334 kWh in energy savings in Idaho and Oregon. New Construction had a 61% increase in total projects and a 54% increase in total savings compared to 2018.

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 IECC information updated in the TRM. Idaho Power refined the list of measures offered after the review, and these measures have remained consistent through 2019.

In addition to the customer incentive, a professional assistance incentive is available to architects and/or engineers for supporting technical aspects and documentation of a project. The incentive is equal to 10% of the participant's total incentive, up to a maximum amount of \$2,500. In 2019, 75 projects received this incentive compared to 44 projects in 2018, and 39 projects in 2017.

Idaho Power representatives visited five architectural and engineering firms in Boise in 2019 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% of projects in 2019. The purpose of the verifications is to confirm program guidelines and requirements are adequate and ensure participants are able to provide accurate and precise information with regard to energy efficiency measure installations. The University of Idaho's IDL completed on-site field verifications on 17 of the 168 projects—over 10% of the total completed. Only minor discrepancies were identified in verified projects.

Retrofits

The Retrofits option experienced substantial energy savings in 2019. Lighting retrofits comprised the majority of the projects and energy savings.

Idaho Power performed a review of the Retrofits lighting measures, after which the company increased the incentive on two measures and made enhancements to the Idaho Power Excel[®] lighting tool.

Idaho Power facilitated six program update workshops across its service area targeting electrical contractors, electrical suppliers, non-lighting contractors, and large customers, with 93 in attendance. To improve understanding of networked lighting controls among electrical contractors and the design community, Idaho Power hosted two hands-on technical Networked Lighting Controls classes. Forty-two electricians, architects, engineers, and large customers in attended. The courses were offered by the Seattle Lighting Design Lab (LDL), with co-funding support from NEEA through its Luminaire Level Lighting Controls (LLLC) Initiative. Attendee feedback was positive, and Idaho Power received requests for additional training on the topic.

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.

Idaho Power continued its contracts with kW Engineering, RM Energy Consulting, and Evergreen Consulting Group to provide ongoing program support for lighting and non-lighting reviews and inspections, as well as contractor outreach.

Marketing Activities

Idaho Power continued to market the C&I Energy Efficiency Program as a single offering to businesses. See the Sector Overview for the company's efforts to market the C&I Energy Efficiency Program. Below are the option-specific marketing efforts for 2019.

Custom Projects

In addition to program-level marketing activities, Idaho Power continued to present large-format checks to interested Custom Projects participants and publicized these events to local media, when applicable. The company also released its WVEEC Success Story and Energy-Saving Tips completed in late 2018.

New Construction

In October, Idaho Power mailed a letter promoting the New Construction option along with the C&I Energy Efficiency Program brochure to 240 architects and engineers. Idaho Power sent program brochures to the City of Boise Public Works office to display at the welcome counter.

Idaho Power also continued to place banners on select construction sites highlighting that the facility is being built or enhanced with energy efficiency in mind. Banners were placed at St. Luke's McCall Medical Center and at the Kuna School District.



Figure 26. Energy-efficiency banner display at Kuna School District building site

Retrofits

In 2019, Idaho Power developed and printed a Retrofits brochure outlining each of the program's incentives. The company also sent direct-mail letters to 1,553 restaurants in March; 627 convenience stores in June; and 1,911 retail facilities, grocery stores, and dairies in September. Each letter was customized with Retrofits incentives specific to each industry and included a brochure highlighting industry-specific energy-saving tips.

Green Motors Initiative

In an effort to increase participation for this measure, Idaho Power has enhanced the Green Motors web page and visibility in various marketing materials and promoted the incentive on LinkedIn. A direct phone number (208-388-2660) and a new email address (greenmotors@idahopower.com) were added so customers and motor centers can contact an Idaho Power representative about GMI more quickly.

Cost-Effectiveness

Custom Projects

Historically, 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 that 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 an audit/assessment, or engineering measurement and verification services available under the Custom Projects option.

The UCT and TRC ratios for the program are 3.62 and 1.92 respectively. An impact evaluation of the program was conducted in 2018; however, a majority of the costs were incurred in 2019. If the cost incurred for the evaluations was removed from the program's cost-effectiveness, the UCT would be 3.63 and the TRC would be 1.93.

Details for the program 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. Because 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 from the TRC perspective. 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.

The UCT and TRC ratios for the program are 3.15 and 2.88 respectively. An impact evaluation was conducted for the program in 2019. As part of the evaluation, the evaluators estimated non-energy impacts based on certain end-uses. These non-energy impacts account for the increase in TRC from 1.79 to 2.88 between 2018 and 2019 despite the application of the 2017 DSM alternate cost

assumptions. Finally, if the amount incurred for the 2019 evaluation was removed from the program's cost-effectiveness, the UCT would be 3.18, while the TRC would be 2.90.

Complete updated measure-level details for cost-effectiveness can be found in the 2018 *Supplement 1: Cost-Effectiveness*.

Retrofits

For 2019, Idaho Power used most of the same savings and assumptions as were used after the program changes in 2018 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.

While all measures pass the UCT, several measures are not cost-effective from the TRC perspective. 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.

The UCT and TRC ratios for the program are 3.68 and 1.85 respectively. An impact evaluation was conducted for the program in 2019. As part of the evaluation, the evaluators estimated non-energy impacts based on certain end-uses. These non-energy impacts account for the increase in TRC from 1.45 to 1.85 between 2018 and 2019 despite the application of the 2017 DSM alternate cost assumptions. Finally, if the amount incurred for the 2019 evaluation was removed from the program's cost-effectiveness, the UCT would be 3.70 while the TRC would be 1.86.

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

Evaluations

In 2019, DNV GL was retained to conduct an impact evaluation for the New Construction and Retrofits options of the C&I Energy Efficiency Program. The initial results are below. For both New Construction and Retrofits, Idaho Power will consider any recommendations from these evaluations in 2020. See the complete impact evaluation reports in *Supplement 2: Evaluation*.

New Construction

DNV GL found the overall realization rate for the program was 100%. While the tracking database and documentation was well-organized, the evaluators had a few recommendations to improve the level of details provided in the database.

Retrofits

DNV GL computed the overall realization rate for the program to be 99.4% with minor adjustments made on three projects. For two of the projects, Idaho Power had already fixed the issues for 2019 saving calculations. The evaluators found the program to be well-organized and the assumptions for the

program well-documented. Additionally, they acknowledge how program staff proactively adjusts savings for special cases.

2020 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. Beginning in 2020, Idaho Power will focus on the UCT to determine cost effectiveness of the C&I Energy Efficiency Program options. Below are specific strategies that apply to the individual options of the program for 2020.

Custom Projects

Over the years, the Custom Projects option has achieved a high service-area penetration rate with more than 90% of the large-power service customers having participated. Idaho Power is actively working to support these customers in new ways and to find additional opportunities for cost-effective energy-saving projects.

As a subset of the C&I Energy Efficiency Program, the Custom Projects option is designed to promote cost-effective capital investment in energy efficiency projects, though the company has used it for energy management projects in the past. In 2020, the company plans to add the new energy management incentive option for a variety of reasons. Compared to capital investment projects related to energy efficiency, energy management projects:

- Tend to have a shorter measure life and a much lower cost.
- Involve O&M changes that save energy without interrupting the customer's service or product.
- Support Idaho Power's goal to generate cost-effective energy savings from measures rooted in low-cost or no-cost O&M improvements.

Activities and coaching will continue for the water and wastewater cohort 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-three completion scheduled for summer of 2020.

Idaho Power will continue to provide:

- Site visits by Custom Projects engineers and energy scoping audits/assessments to identify projects and energy-savings opportunities
- M&V of larger, complex projects
- Technical training for customers
- Funding for detailed energy assessments/audits for larger, complex projects

New Construction

Idaho Power will continue to perform random post-project verifications on a minimum of 10% 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. Idaho Power will perform a review of the New Construction measures in 2020 based on an updated TRM reflective of the 2018 IECC.

Retrofits

Idaho Power will review local contractor/supplier participation in the Retrofits option to assess methods to optimize participation.

Commercial Energy-Saving Kits

	2019	2018*
Participation and Savings		
Participants (sites)	2,629	1,652
Energy Savings (kWh)	569,594	442,170
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	\$154,632	\$144,436
Oregon Energy Efficiency Rider	\$7,312	\$1,738
Idaho Power Funds	\$0	\$0
Total Program Costs—All Sources	\$161,945	\$146,174
Program Levelized Costs		
Utility Levelized Cost (\$/kWh)	\$0.029	\$0.034
Total Resource Levelized Cost (\$/kWh)	\$0.029	\$0.034
Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	1.57	1.56
Total Resource Benefit/Cost Ratio	2.52	2.50

*Participant counts, energy savings, and dollars were combined with the Commercial and Industrial Energy Efficiency Program summary table in the *Demand-Side Management 2018 Annual Report*.

Description

The Commercial Energy-Saving Kit (Commercial ESK) program is offered to commercial business customers in Idaho and Oregon. Three industry-specific types are available for restaurants, retailers, and offices (Table 15)—and each contains installation instructions and a variety of items intended to help save energy related to lighting, hot water use, and intermittently used electrical devices. Idaho Power uses a third-party vendor for kit assembly and mailing. The vendor sends the kit through the mail directly to the customer on the company's behalf.

Table 15. Industry-specific Commercial ESK contents

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

The vendor also batch-ships kits to area Idaho Power offices for distribution by Idaho Power energy advisors. An energy advisor may then deliver a Commercial ESK while visiting a small business customer and use it as an introduction to the benefits of the other commercial energy efficiency programs offered by the company.

Program Activities

In 2019, Idaho Power continued to offer Commercial ESKs, with a primary focus on small business customers. Idaho Power distributed more than 2,629 kits (Table 16), 85% of which were distributed after a customer spoke with a company representative on the phone.

Table 16. Energy savings by type and number of Commercial ESKs distributed

State	Kit Type	Total Distributed	kWh Savings
Idaho	Restaurant	262	141,257
	Retail	150	36,084
	Office	2,104	366,180
Oregon	Restaurant	17	9,165
	Retail	3	722
	Office	93	16,186

Marketing Activities

Idaho Power promoted the Commercial ESK using LinkedIn posts in January and February, and a LinkedIn ad targeting small businesses in September that resulted in 42,902 impressions and 188 clicks. The company also included information on the kits in the spring *Energy@Work* newsletter and in the Retrofits letter to restaurants in March. In August, the company launched an online order form to make the ordering process easier for consumers, sent a follow-up email to kit recipients asking them to complete an installation survey, and mentioned the kits during an energy efficiency-focused TV segment.

Cost Effectiveness

Because no deemed savings values exist for the Commercial ESK program, Idaho Power made several assumptions for each kit. When the offering launched in mid-2018, the installation rates of the items in the kit was unknown. Idaho Power estimated the installation rates based on professional judgement. A follow-up survey was sent to participants in 2019. Early results indicate installation rates may be better than initially calculated. When final results are received, Idaho Power will review the results and apply the installation rates for each kit type.

When the kits are distributed, the water heating fuel source is often unknown. Initially, Idaho Power assumed that 40% of kits are distributed to businesses with electric water heat. Idaho Power will update this assumption if better data is obtained in 2020.

For the LEDs and aerators, savings vary by kit type based on the average annual hours of use and annual gallons of water used by business type. Savings for the pre-rinse spray valve in the restaurant kit is from the RTF; it is adjusted based on an assumed installation rate and discounted based on the electric water heat assumption.

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

2020 Program and Marketing Strategies

In 2020, Idaho Power will continue working with the third-party vendor for Commercial ESK distribution to area offices and small business customers. The marketing activities will include a LinkedIn ad and an online pop up during the My Account log in. Additionally, calls made to new business customers will include the kit as one of the welcome offerings, and the online order form will remain available through the company's website.

Flex Peak Program

	2019	2018
Participation and Savings		
Participants (sites)	145	140
Energy Savings (kWh)	n/a	n/a
Demand Reduction (MW)	31	33
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	\$75,306	\$58,727
Oregon Energy Efficiency Rider	\$256,606	\$64,316
Idaho Power Funds	\$294,911	\$310,270
Total Program Costs—All Sources	\$626,823	\$433,313
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 before 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 2019, 65 participants enrolled 145 sites in the program—10 of those sites were new. Existing customers were automatically re-enrolled in the program. Participants had a committed load reduction of 36.3 MW in the first week of the program and ended the season with an amount of 35.5 MW. This weekly commitment, or nomination, was comprised of all 145 sites. The maximum realization rate during the season was 86%, and the average for the three events was 77%. This is an overall decrease from 89% in 2018. 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 31 MW (at generation level) during the July 22 event (Table 17). The program had higher costs in 2019 over 2018 because of the higher enrolled capacity, however the actual reduction was lower in 2019 because the actual realization of reduction during events. The realization is affected primarily by customer operations and event timing.

Table 17. Flex Peak Program demand response event details

Event Details	Monday, July 12	Wednesday, July 22	Tuesday, August 6
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)	25	31	30.5

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.

In 2019, the company updated the look of the Flex Peak brochure and load reduction tips to match the look of the other C&I Energy Efficiency Program materials. The company also promoted Flex Peak enrollment in the April issue of *Energy@Work*, an April LinkedIn post, and a LinkedIn ad that resulted in 143,673 impressions and 1,215 clicks.

Idaho Power’s energy advisors conducted field visits with 2018 participants in the offseason and early spring to ensure re-enrollment was successful and to verify load size, load traits, and type of operation. The energy advisors also explained the available incentive amounts based on customer nominated load.

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 Idaho Power’s demand response programs were cost-effective for 2019.

The Flex Peak Program was dispatched for 12 event hours and achieved a maximum reduction of 31 MW. The total cost of the program in 2019 was \$626,823. Had the Flex Peak Program been used for the full 60 hours, the cost would have been approximately \$903,000.

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*.

2020 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 plans to focus on retaining currently enrolled participants and will more proactively work with the marketing specialist to promote the program at company-sponsored events and trainings.

Though the terms of IPUC Order No. 32923 and OPUC Order No. 13-482 do not require program marketing, Idaho Power energy advisors 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. The program specialist has already started working with potential candidates for the 2020 season with an increased focus on enrolling national chain stores within the Idaho Power service area. This customer type makes a good candidate for the program because of their extended operating hours, non-production load types, building automation controls, and consistent energy-use profiles.

Oregon Commercial Audits

	2019	2018
Participation and Savings		
Participants (audits)	11	0
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	\$7,262	\$1,473
Idaho Power Funds	\$0	\$0
Total Program Costs—All Sources	\$7,262	\$1,473
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 2019, 11 customers requested audits through this program. As in previous years, EnerTech Services conducted the audits, and Idaho Power personnel were available to assist customers.

Marketing Activities

Idaho Power sent its annual direct-mailing to 1,456 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.

2020 Program and Marketing Strategies

Idaho Power does not expect to make any operational changes to the program in 2020.

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 via its energy advisors.

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 2019, the active and inactive irrigation service locations totaled 20,210 system-wide. This was an increase of 0.7% compared to 2018, primarily due to the addition of service locations for pumps and center pivots irrigation systems to convert land previously furrow or surface irrigated to sprinkler irrigation. Irrigation customers accounted for 1,759,137 MWh of energy usage in 2019, which was a decrease from 2018 of approximately 11%, primarily due to variations in weather. This sector represented nearly 12% of Idaho Power's total electricity sales, and approximately 29% of July sales. As stated, above customer numbers have increased slightly over time, while the energy usage trend for this sector has not changed significantly in many years. There is, however, a substantial yearly variation in usage due primarily to the impact of weather on customer irrigation needs.

Idaho Power offers two programs to irrigation customers:

1. Irrigation Efficiency Rewards, an energy efficiency program designed to encourage the replacement or improvement of inefficient irrigation 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 reduced annual savings: from 19,002 MWh in 2018 to 10,118 MWh in 2019. This is due primarily to the reduction in the RTF deemed savings of Menu Incentives options.

Idaho Power re-enrolled the majority of 2018 Irrigation Peak Rewards participants in 2019, with 2,332 service points and a maximum load reduction potential of 327 MW. Table 18 shows the 2019 actual load reduction was 278 MW and summarizes the overall expenses and program performance for both the energy efficiency and demand response programs provided to irrigation customers.

Table 18. Irrigation sector program summary, 2019

Program	Participants	Total Cost		Savings	
		Utility	Resource	Annual Energy (kWh)	Peak Demand (MW)
Demand Response					
Irrigation Peak Rewards.....	2,332 service points	\$ 6,771,708	\$ 6,771,708		278
Total		\$ 6,771,708	\$ 6,771,708		278
Energy Efficiency					
Irrigation Efficiency Rewards.....	1,080 projects	\$ 2,661,263	\$10,042,514	10,073,455	
Green Motors—Irrigation	34 motor rewinds			44,705	
Total		\$ 2,661,263	\$10,042,514	10,118,160	

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

Marketing

In 2019, the company mailed a fall edition of *Irrigation News* to all irrigation customers in its service area: one version specific to Idaho customers and one for Oregon customers. In part, the newsletter educated customers about how to choose motors on single-phase lines.

Throughout 2019, changes to program brochures 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*, *Power County Press*, *Potato Grower Magazine*, *Idaho Cattle Association Guide*, *Owyhee Avalanche*, and *The Ag Expo East and West Programs*. 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 2019, Idaho Power collaborated 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 TV commercial on KMVT and through digital ads in the Twin Falls area in March and April.

A new tabletop display was created to showcase at irrigation-specific trade shows and highlighted specific equipment incentives.

Customer Satisfaction

Idaho Power conducts the Burke Customer Relationship Survey each year. In 2019, 51% of irrigation survey respondents indicated Idaho Power is meeting or exceeding their needs with information on how to use energy wisely and efficiently.

Sixty-seven percent of irrigation respondents indicated Idaho Power is meeting or exceeding their needs by encouraging energy efficiency with its customers. Fifty-seven percent of Idaho Power irrigation customers surveyed in 2019 indicated the company is meeting or exceeding their needs in offering energy efficiency programs, and 44% 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, 88% 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 2019, Idaho Power provided 10 workshops promoting the Irrigation Efficiency Rewards program. Approximately 200 customers attended workshops in American Falls, Blackfoot, Caldwell, Eden, Gooding, Leadore, Mountain Home, Parma, Picabo, and Salmon, 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, and the Agri-Action Ag Show.

Field Staff Activities

Idaho Power’s agricultural representatives offered customer education, training, and irrigation-system assessments and audits across the service area. Agricultural representatives also engaged 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, participated 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

	2019	2018
Participation and Savings		
Participants (projects)	1,114	1,048
Energy Savings (kWh)*	10,118,160	19,001,507
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	\$2,449,427	\$2,681,664
Oregon Energy Efficiency Rider	\$174,120	\$233,916
Idaho Power Funds	\$37,716	\$38,126
Total Program Costs—All Sources	\$2,661,263	\$2,953,706
Program Levelized Costs		
Utility Levelized Cost (\$/kWh)	\$0.031	\$0.019
Total Resource Levelized Cost (\$/kWh)	\$0.119	\$0.075
Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	2.44	4.57
Total Resource Benefit/Cost Ratio	3.13	3.03

*2019 total includes 44,705 kWh of energy savings from 34 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. Irrigation customers can also qualify for an incentive when they “rewind” their irrigation motors.

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% 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% 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 (sprinkler, regulator, and nozzle)
- New drains for pivots or wheel-lines
- New riser caps and gaskets for hand lines, wheel lines, and portable main lines
- New wheel-line hubs (Thunderbird)
- 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.

Green Motors Initiative

Idaho Power also participates in the Green Motors Practices Group's GMI. Under the initiative, Idaho Power pays service centers \$2 per hp for motors 15 to 5,000 hp that received a verified Green Rewind. Half of that incentive is passed on to irrigation customers as a credit on their rewind invoice.

Program Activities

In 2019, 1,080 projects were completed as follows: 924 utilized the Menu Incentive Option and provided an estimated 4,355 MWh of energy savings; and 156 utilized the Custom Incentive Option and provided 5,718 MWh of energy savings (78 were new systems and 78 were on existing systems).

Also, a total of 34 irrigation customers' motors were rewound under the GMI and accounted for 44,705 kWh in savings.

Marketing Activities

In addition to training and education activities mentioned in the Irrigation Sector Overview, the Idaho Power agricultural representative and program specialist worked one-on-one with irrigation dealers and vendors who 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 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% 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% on average for several irrigation hardware types. Overall, the program remains cost-effective from both the UCT and TRC perspective. Two measures pass the UCT but fail the TRC while one measure, the rebuilt or new brass sprinkler, fails both the UCT and TRC. Idaho Power received a cost-effectiveness exception with Oregon under Order No. 18-476.

Idaho Power continues to work with the RTF and the irrigation subcommittee to re-examine the assumptions such as leakage and flow rate, as well as the calculation methodology behind these irrigation measures.

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

2020 Program and Marketing Strategies

The Irrigation Efficiency Rewards program is scheduled for an impact and process evaluation in 2020. The findings of the third-party evaluation will be included in the *Demand-Side Management 2020 Annual Report*.

Idaho Power does not expect to make any changes to the Custom Incentive Option in 2020. The company has been working with the RTF which is reviewing the small maintenance measures under the Menu Incentive Option offered by Idaho Power and other utilities in the region. The RTF created a working group which has created a survey to be used by regional utilities to gather better information on maintenance practices of irrigation systems. Idaho Power plans to mail this survey to all Idaho Power irrigation customers. The results of the survey will be compiled and analyzed to

determine next steps. The survey is meant to be a gauge of the maintenance practices of customers participating in the program and receiving incentives versus non-participants.

Irrigation Efficiency Rewards program marketing plans include conducting at least six customer-based irrigation workshops to promote energy efficiency technical education and program understanding. 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 promote the program in agriculturally focused editions of newspapers, magazines, and radio ads. The radio ads will run during the spring throughout the company's southern and eastern service areas.

Irrigation Peak Rewards

	2019	2018
Participation and Savings		
Participants (participants)	2,332	2,335
Energy Savings (kWh)	n/a	n/a
Demand Reduction (MW)	278	297
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	\$239,523	\$230,953
Oregon Energy Efficiency Rider	\$179,733	\$180,865
Idaho Power Funds	\$6,352,452	\$6,479,919
Total Program Costs—All Sources	\$6,771,708	\$6,891,737
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 one or more control devices. Historically, the Irrigation Peak Rewards program provides approximately 320 MW, or nearly 9% 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 hp or if Idaho Power or its contractor has determined the AMI or cellular technology will 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 and 9 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 and 8 p.m. and is increased to \$0.198/kWh when customers allow Idaho Power to interrupt their pumps until 9 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 2,332 service points in 2019. The enrolled service points accounted for 84.4% of the eligible service points. The total nominated kW was 408.65. The total maximum potential reduction (capacity) for the program in 2019 was 327 MW. The company utilized two electrical contractors during the spring of 2019 to maintain and troubleshoot the AMI devices and cellular devices for dispatching. Identification and correction of device failures is an ongoing effort before and throughout each season.

Table 19. Irrigation Peak Rewards demand response event details

Event Details	Thursday, July 11	Tuesday, July 23	Monday, August 5
Event time	2–9 p.m.	2–9 p.m.	2–9 p.m.
Temperature.....	96°F	96°F	96°F
Maximum load reduction (MW)	268.9	278.0	254.0

The program administration expenses decreased by 3%; the lower expenses reflect the program in a maintenance mode with Idaho Power managing the devices. The company anticipates that until changes to participation, hardware, software, and/or program guidelines occur, program expenses will remain near the current level.

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, enrollment worksheet, and contact worksheet were mailed to all eligible participants in March 2019. 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 Idaho Power’s demand response programs were cost-effective for 2019.

The Irrigation Peak Rewards program was dispatched for 12 event hours and achieved a maximum demand reduction of 278 MW. The total expense for 2019 was \$6.8 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 20. A copy of the program report is included in *Supplement 2: Evaluation*.

Table 20. Irrigation Peak Rewards program MW load reduction for events

Event Date	2–3 p.m.	3–4 p.m.	4–5 p.m.	5–6 p.m.	6–7 p.m.	7–8 p.m.	8–9 p.m.
July 11	60.7	136.3	204.2	268.9	208.2	132.6	64.6
July 23	64.7	140.7	216.9	278.0	213.3	137.3	61.1
August 5	50.7	119.4	202.8	254.0	203.3	134.6	51.2

2020 Program and Marketing Strategies

Idaho Power will continue to recruit past participants in this program for the 2020 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, enrollment worksheet, and contact worksheet encouraging their participation. Idaho Power agricultural representatives will continue one on one customer contact to inform and encourage program participation.

Other Programs and Activities

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 has been modifying its existing programs and expanding programs over the years to include as many cost-effective energy efficiency measures as possible from all customers. Due to the expanded options, there has been decreasing participation in the LEEF offering.

In 2019, Idaho Power received one LEEF application for funding related to residential lighting upgrades and behavioral energy savings. This residential application was reviewed and deemed not appropriate for LEEF because the project and energy behavioral changes submitted, were contained within existing incentive programs and marketing campaigns. An Idaho Power residential program specialist followed up with the applicant to thank him for the submission and encourage further energy-saving efforts.

Idaho Power's Internal Energy Efficiency Commitment

Idaho Power continues to upgrade its substation buildings across the service area and prioritizes the conversion to xeriscape landscaping. In 2019, truck bay and warehouse lighting at the Mini-Cassia Operations Center were replaced with efficient LED fixtures and lamps. Besides promoting energy efficiency, this retrofit will reduce O&M costs because the Mini-Cassia office is serviced by a co-operative electric utility, not by Idaho Power.

Renovation projects continued at the Idaho Power Corporate Headquarters (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 for better transfer of daylight, other lighting retrofits, and automated lighting controls.



Figure 27. Lighting renovation projects at Idaho Power Corporate Headquarters

In 2018, the design was completed for the new HVAC system at the Maintenance and Electrical shops; construction on these started in 2019 and will continue into 2020. 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 2019 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 2019. Idaho Power's other internal energy efficiency projects and initiatives are funded by non-rider funds.

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 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.

Throughout 2018 and 2019, NEEA and its funders planned the next five years. In October 2019, Idaho Power signed an agreement with NEEA for the 2020-2024 funding cycle and committed \$14.7 million, or approximately \$2.9 million annually. On October 21, 2019, Idaho Power filed IPUC Case No. IPC-E-19-34 seeking IPUC authorization for Idaho Power's continued participation in NEEA for the 2020 to 2024 cycle and confirmation that its participation be funded by the Idaho Rider.

On February 20, 2020 Idaho Power received IPUC Order No. 34556 allowing Idaho Power to participate in NEEA from 2020 to 2024 funded through the Idaho Rider. NEEA categorizes the saving it achieves in five categories: total regional savings, baseline savings, local program savings, net market effects, and co-created saving created by NEEA and its utility funders working collaboratively. Of the 360–500 average megawatts (aMW) of savings forecast for 2020 to 2024, NEEA expects 70 to 100 aMW to be net market effects, and 115–152 aMW will be co-created savings.

In 2019, Idaho Power participated 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 Advisory Committee, Residential Advisory Committee, Commercial Advisory Committee, Regional Emerging Technology 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 (SEM), Commercial Lighting—Reduced Wattage Lamp Replacement, Top-Tier Trade Ally, and Luminaire Level Lighting Controls.

For the 2020-2024 funding cycle, NEEA and its funders have reorganized the “advisory” committees. NEEA now has two coordinating committees: Products Coordinating Committee and Integrated Systems Coordinating Committee. NEEA and its funders will form working groups as needed in consultation with the Regional Portfolio Advisory Committee (RPAC). The RPAC will continue, as well as the Cost-Effectiveness Advisory and the Regional Emerging Technology Advisory committees. The Idaho Energy Code Collaborative will also remain intact.

NEEA performed several market progress evaluation reports (MPER) on various energy efficiency efforts this year. In addition to the MPEs, 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 2019, these activities included educating residential customers on HPWH and DHPs and educating commercial customers and participating contractors on NXT Level Lighting Training, and LLLC.

Idaho Power promoted DHPs 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. Idaho Power posted on LinkedIn in September highlighting NXT Level Lighting Training. To promote LLLC, Idaho Power held training classes in March in Nampa and in December in Boise.

NEEA Activities: All Sectors

Cost-Effectiveness 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 updated since the previous reporting cycle. The process usually requires a webinar and an all-day meeting. The committee also reviews NEEA evaluation studies and data-collection strategies and previews 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.

In 2017, 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 current ICC code adopted in 2015. The results of the comparison were provided to the IBCB. On October 29, 2019, the IBCB approved these codes with some amendments. These codes will be on Idaho's 2020 legislative session agenda for a final decision.

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 Technology Advisory Committee

Idaho Power participated in Regional Emerging Technology Advisory Committee (RETAC), which met quarterly to review the emerging technology pipeline for BPA, NEEA, and the Northwest Power and Conservation Council (NWPPCC) Seventh Power Plan. Throughout 2019, 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. During the fourth-quarter meeting, RETAC reviewed eight categories of technologies listed in the NWPPCC 2021 Power Plan. RETAC will focus on these four areas: commercial HVAC, residential HVAC, water heating, and a miscellaneous category to capture technologies not currently in a category. A group of RETAC members was formed for each category and priorities and goals were discussed. This work will continue in 2020.

Regional Portfolio Advisory Committee

The 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. In 2018, NEEA and RPAC formed an additional group called the RPAC Plus (RPAC+), which included marketing subject matter experts to help coordinate NEEA's marketing activities with those of the funders.

RPAC convenes in-person for quarterly meetings and by webinar as needed. In 2019, the RPAC conducted four quarterly meetings and two webinars.

In the first regular quarterly meeting of RPAC on February 26, NEEA updated the RPAC on the Strategic/Business/Operations Planning and announced the Conduit transition to funder portals. The Streamlining Task Force updated the group on the new committee concepts, and there was a RPAC+ presentation on marketing ideas. Also at this meeting, the RPAC voted to advance LLC through the scale-up approval (SA) milestone.

On May 21, the RPAC saw presentations and had discussions concerning the Retail Product Portfolio due for a scale-up vote at the third-quarter RPAC meeting. The RPAC voted to move the Reduced Wattage Lamp Replacement initiative into long-term monitoring. At this meeting, the RPAC also extensively discussed the RPAC charter and changes made to the charter prior to it being sent to the Governance Committee of NEEA's Board of Directors. Additionally, the RPAC+ group reviewed the 2019 heat pump water heater consumer awareness campaign scheduled for third quarter 2019.

On June 20, 2019, the RPAC had a webinar emphasizing the scale up of the Retail Product Portfolio (RPP) initiative to market development stage of the NEEA program life cycle.

The next RPAC meeting was held on September 4, 2019. At this meeting, the committee discussed the scale-up of the Manufactured Homes initiative due for a vote at the third-quarter meeting of the RPAC. The committee also received a portfolio overview, voted to scale-up the RPP, and discussed midstream lighting pilots. At the RPAC+ portion of the meeting, members discussed the sharing of 2020 marketing plans and the heat pump water heater consumer awareness campaign timing.

The RPAC held their final meeting of 2019 on November 13, 2019, where the committee discussed the transition from advisory committees to coordinating committees and decided to remove the Cost-Effectiveness Advisory Committee and the Regional Emerging Technology Advisory Committees from the RPAC charter until their inclusion could be further discussed in the RPAC. Additionally, at this meeting the RPAC voted to scale-up the Manufactured Homes initiative.

Throughout 2019, RPAC received updates on NEEA board discussions concerning the Strategic/Business/Planning process for the 2020–2024 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.

NEEA continued evaluating the readiness for the DHP Initiative to transition to the Long Term Monitoring and Tracking (LTMT) stage of the Initiative Lifecycle. On April 1, 2019, NEEA held an in-

person stakeholder workshop in Portland at NEEA's offices that enabled northwest stakeholders, including Idaho Power, to communicate their opinions as to the readiness of the DHP initiative to transition to LTMT. On the same day, NEEA also met separately with Idaho Power to discuss specific opinions and concerns Idaho Power had in regard to LTMT.

To help inform stakeholders, the eighth MPER was published November 11, 2019. The report suggested that the DHP Initiative had made significant progress and was ready to transition to the LTMT stage. NEEA included the report findings in their overall decision, proposing that the DHP Initiative transition to LTMT at the end of 2020.

NEEA will perform an assessment in the third quarter of 2020 to once more verify readiness. NEEA committed to provide continued support for specific regional issues remaining, such as increasing product cost and cost effectiveness issues. The support would be provided by other NEEA resources such as RETAC. Additional research is planned for first and second quarters of 2020 focusing on product application in certain climate zones. The goingductless.com website NEEA created and manages will be assessed for its viability.

Heat Pump Water Heater Workgroup

Idaho Power continued participating in NEEA's Heat Pump Water Heater Workgroup. Its members are primarily staff from 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 2019 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. NEEA decided to dissolve the workgroup at the end of 2019.

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 and continued as a member in 2019. The group name was modified to the Consumer Products Regional Steering Committee (CPRSC). The members are primarily staff from 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 2019, the group continued their work with a strong focus on smart thermostats and HPWHs to a lesser extent. The group met on February 6, 2019, to advance their work primarily on smart thermostats. The RTF planned to sunset its smart thermostat planning measure in November 2019. The RTF requested that research be done to help determine if smart thermostats can be advanced to a deemed measure from its current planning measure status. An active research study would support an extension of the sunset date by the RTF. The group contacted several utilities seeking interest in funding a regional smart thermostat research study. Funding was obtained, and the RTF extended the sunset date to December 31, 2020. On November 5, 2019, Idaho Power offered to fund \$25,000. A request for proposal was made available and several contractors responded. After evaluating the proposals, an analytics firm was awarded the contract on November 26, 2019, launching the onset of the study. The study duration will be a minimum of one year.

Residential Advisory Committee

Idaho Power participates in the Residential Advisory Committee (RAC), the BetterBuiltNW Workgroup, which encompasses both residential new construction and new ENERGY STAR® manufactured homes, the RPP Initiative, the Super-Efficient Dryers Workgroup, and the Northwest Regional Retail Collaborative.

Idaho Power participated in the RAC, which met quarterly in 2019. 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 2019, 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 and 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 2019, NEEA included clothes washers in the super-efficient dryers initiative. Information shows there is potential for large savings when grouping laundry units as a pair. Energy savings for clothes dryers can be increased significantly if paired with an efficient clothes washer.

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 2019, there were five qualifying products: freezers; room A/Cs; electric dryers and refrigerators (advanced tiers only); and clothes washers (top-load tier only). The incentive is not intended to buy down the purchase, but rather to influence stocking and assortment practices that will hopefully influence manufacturing practices as well as increases to energy efficiency standards.

NEEA Activities: Commercial/Industrial

NEEA continued to provide support for commercial and industrial energy efficiency activities in Idaho in 2019, which included partial funding of the IDL for trainings and additional tasks.

Commercial Building Stock Assessment

NEEA continued work on the Commercial Building Stock Assessment (CBSA) throughout 2019. 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.

NEEA and its research firm, Cadmus, began contacting Idaho Power customers in early 2019. The CBSA struggled to meet its targets for the region and had difficulties finding participants for certain building types such as hospitals and residential care facilities. In late 2019, Idaho Power assisted NEEA by reaching out to specific customers identified by NEEA. A final report will be available by mid-2020.

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 2019 included sending a survey to architects and engineers in the State of Idaho on Idaho Best Practices in Commercial Building Design. The survey identified projects built better than current code, which will be used in future Idaho Case Studies. This work will continue in 2020.

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.

Top-Tier Trade Ally

The Top-Tier Trade Ally initiative offers lighting trade allies throughout the region multi-tiered training called NXT Level. Five individuals in Idaho Power's service area achieved NXT Level 1 designation in 2019. An online version of NXT Level 2 training was rolled out in 2019. Two trade allies in Idaho Power's service area achieved NXT Level 2 designation, and an additional six are enrolled and in the process of completing the training.

Luminaire Level Lighting Controls

Idaho Power hosted two Networked Lighting Controls classes in 2019. The classes were co-funded with NEEA's LLLC initiative and taught by the Seattle LDL. The classes were attended by architects, electrical engineers, electrical contractors, and Idaho Power large commercial customers.

NEEA supported the development of a presentation by the Idaho Integrated Design Lab they could use in educating industry players on LLLC. NEEA continues to engage manufacturers and associated sales channels in increasing their focus on LLLC in the Pacific Northwest. Opportunities for utility collaboration with NEEA on this front may be forthcoming in 2020.

NEEA Funding

In 2019, Idaho Power completed the 2015–2019 five-year Regional Energy Efficiency Initiative Agreement funding cycle 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 \$13.5 million in support of NEEA’s implementation of market transformation programs in Idaho Power’s service area. Of this amount in 2019, 100% was funded through the Idaho and Oregon Riders. Funding in the amount of \$14.7 million, or approximately \$2.9 million annually for the 2020-2024 five-year cycle was submitted to IPUC for approval on October 21, 2019. On February 20, 2020, Idaho Power received IPUC Order No. 34556, allowing Idaho Power to participate in NEEA from 2020–2024 with such participation to be funded through the Idaho Rider and subject to a prudency review.

In 2019, Idaho Power paid \$2,721,070 to NEEA: \$2,585,017 from the Idaho Rider for the Idaho jurisdiction and \$136,053 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 2019 will be released later in the year. Preliminary estimates reported by NEEA for 2019 indicate Idaho Power’s share of regional market transformation savings as 18,108 MWh. These savings are reported in two categories, 1) codes-related and standards-related savings of 15,572 MWh (86%) and 2) non codes-related and non-standards-related savings of 2,536 MWh (14%).

In the *Demand Side Management 2018 Annual Report*, preliminary funding share estimated savings reported were 24,965 MWh. The final savings included in this report for 2018 final funding-share NEEA savings is 25,667 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 nea.org.

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 subcommittees, 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 (ETO), 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 appeal 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.

In 2019, Idaho Power agreed to the RTF 2020–2024 Sponsorship. Under this agreement, Idaho Power is the fourth largest RTF funder, at a rate of \$713,300 for the five-year period. For this funding cycle, gas utilities and the gas portion dual-fuel utilities are also funding the RTF. As a consequence, Idaho Power's funding level slightly decreased.

When appropriate and when the work products are applicable to the climate zones and load characteristics in Idaho Power's service area, Idaho Power uses the savings estimates, measure protocols, and supporting work documents provided by the RTF. In 2019, Idaho Power staff participated in all RTF meetings and the RTF Policy Advisory Committee.

Throughout the year, Idaho Power reviews any changes enacted by the RTF to savings, costs, or parameters for existing and proposed measures. The company then determines how the changes might be applicable to, or whether they impact, its programs and measures. The company accounted for all implemented changes in planning and budgeting for 2020.

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.

Kill A Watt Meter Program

The Kill A Watt™ Meter Program remained active in 2019. 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 28. Kill A Watt meter

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 2019, 19 teachers completed the four-day, two-credit professional development workshop offered at the College of Western Idaho's iSTEM Institute. The workshop "Paper Circuits and Energy FUNk!" was facilitated by Idaho Power and cosponsored by Intermountain Gas. 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 a myriad of hands-on, minds-on student learning experiences related to energy, energy efficiency, and wise energy use. By participating in the 2019 workshop, teachers developed skills and relationships to help them age-appropriately engage elementary, middle school, or high school students in activities and conversations around energy sources, energy production, future energy needs, and energy efficiency options and choices.

Customer Education and Marketing

REEEI continued to produce semiannual *Energy Efficiency Guides* in 2019. Idaho Power distributed these guides primarily via insertion in local newspapers and at events across Idaho Power's service area. For seasonal variety and to better align with the timing of the April/May residential energy efficiency campaign, Idaho Power published the first 2019 *Energy Efficiency Guide* in the spring, rather than earlier in the winter. The spring/summer guide was published and distributed by 17 newspapers in Idaho Power's service area the week of April 14; the *Boise Weekly* also inserted the guide. The guide focused on providing answers to a number of energy efficiency questions customers had recently asked about home upgrades and do-it-yourself projects. Along with useful energy-saving tips, the guide

addressed energy-efficient windows, DHPs, managing personal energy use, and ways to save energy when leaving a home vacant during vacations. The guide featured imagery from the new energy efficiency campaign. Idaho Power promoted the guide on the idahopower.com homepage.

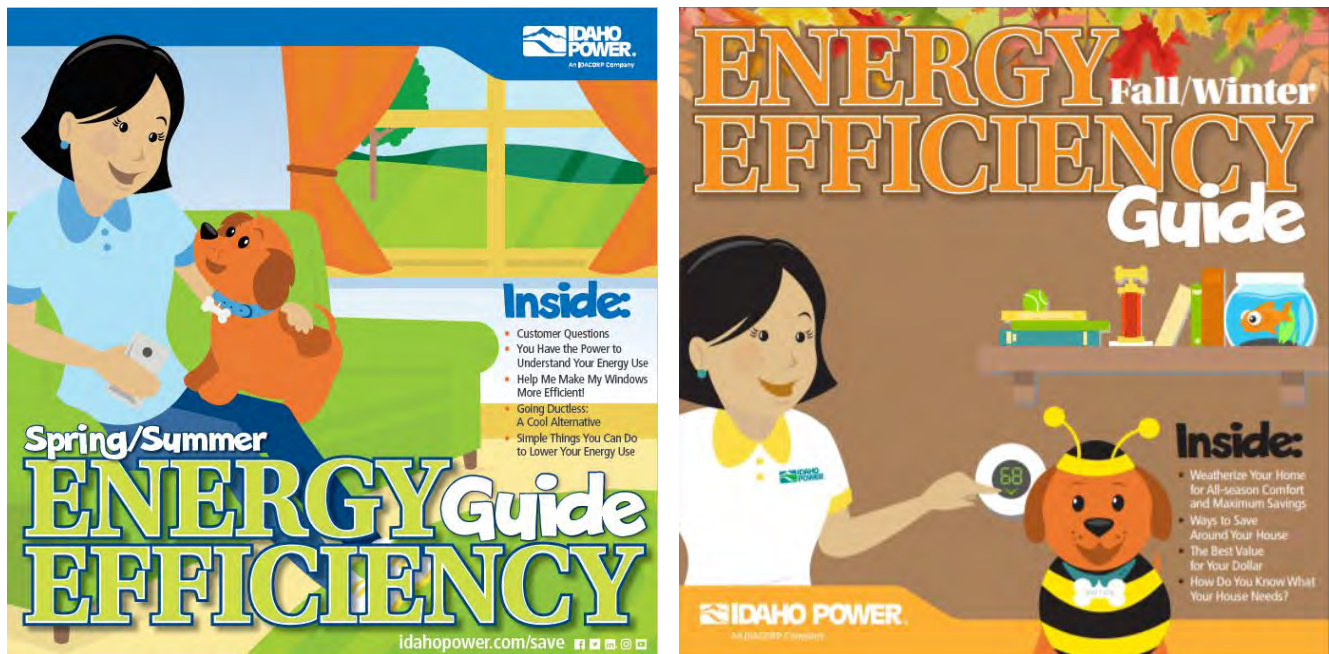


Figure 29. Spring/Summer and Fall/Winter editions of the *Energy Efficiency Guide*, 2019

The *Idaho Statesman* published two ads encouraging readers to look for the guide on its publication dates.

The fall/winter *Energy Efficiency Guide* was delivered to over 183,000 homes the week of October 27, 2019. This guide highlighted efficient ways to stay comfortable during cooler months with practical weatherization tips, techniques and advice, as well as specific room-by-room tips for reducing energy use at home. It also included suggestions for how to care for your HVAC system, assess what upgrades may be appropriate for homes of specific vintages, and determine what actions may provide the best return on investment.

Both of the 2019 guides were designed to match the new residential energy efficiency campaign imagery, featuring identifiable Idaho Power characters of Joulie the energy advisor and her dog Wattson. Matching the guide to the rest of the campaign, as well as publishing it during the months when the residential campaign was actively running, created cross-promotional opportunities, and higher brand awareness.

Both of the 2019 guides were translated into Spanish to help reach the larger Idaho Power customer base. In 2019, the company distributed a total of 5,550 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 2019. Idaho Power increased customer awareness of energy-saving ideas via continued distribution of the fourth 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. In 2019, the program distributed 1,044 copies directly to customers. This was accomplished via community events and local libraries; by energy advisors 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 Care Center.

Idaho Power continues to recognize that educated employees are effective advocates for energy efficiency and Idaho Power's energy efficiency programs. Idaho Power CR&EE staff reached out to each of Idaho Power's geographical regions and the Customer Care Center to speak with energy advisors 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 Idaho Remodeling & Design Show (targeting customers planning to make home upgrades), 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 98 outreach activities, including events, presentations, trainings, and other activities. Idaho Power energy advisors throughout the service area delivered numerous other presentations to local organizations addressing energy efficiency programs and wise energy use. In 2019, Idaho Power's EOEAs provided 69 presentations on *The Power to Make a Difference* to 1,845 students and 40 classroom presentations on *Saving a World Full of Energy* to 1,086 students. The EOEAs and other staff also completed 17 senior citizen presentations on energy efficiency programs and shared information about saving energy to 805 senior citizens in the company's service area. Additionally, Idaho Power's energy efficiency program specialists responded with detailed answers to 201 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 and program awareness. Four *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 social media 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 *News Briefs* and KTVB and KMVT live news segments focused on energy efficiency.

2020 Program and Marketing Strategies

The initiative's 2020 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-saving 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 expansion of the HER Pilot Program.

The initiative will continue to educate customers using a multi-channel approach 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, which 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 2019, 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.

The IDL provided technical assistance on 13 new projects in the Idaho Power service area in 2019: five Phase I projects, five Phase II, one Phase III project, and two additional projects. Five of the projects were on new buildings, seven on existing buildings, and the remaining project was not building-specific. The number of projects decreased in 2019 compared to 2018, but the total building area impacted increased to approximately 275,000 ft², compared to 250,000 ft² in 2018. An additional six new projects are proposed for potential future work. 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 2019, the IDL scheduled 14 technical training lunches in Boise, three in Meridian, two in Ketchum, and one in Idaho Falls. The sessions were coordinated directly with architecture and engineering firms and organizations; a total of 157 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 (2); Daylight in Buildings: Getting the Details Right (3); Chilled Beams (1); Radiant

System Design Considerations (1); Hybrid Ground Source Heat Pump Systems (1); The Architect's Business Case for Energy Performance Modeling (4); Future of Lighting Controls (3); High Efficiency Heat Recovery (2); Cold Feed: Managing Controls and Condensation for Radiant Slab Cooling (1); and Variable Refrigerant Flows (VRF) & Heat Pumps (2). 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 2019, six monthly BSUG sessions were hosted by IDL. The sessions were attended by 75 professionals in-person and 71 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 4.30 for 2019. 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 3.2 for 2019.

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% of the C&I Energy Efficiency Program New Construction participants who received incentives. The IDL 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 use 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 2019, 49 new tools and five accessories were added to replace old data logging models, to create beta tool loan kits as well as additional analog connectors for the XC power logger series as it was discovered the previous series connectors are not compatible. 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 26 tool loan requests in 2019, by 17 unique users, including six new users from 14 different locations. End-users included architectural and engineering firms, equipment representatives,

educational institutions, industrial plants, residential homes and commercial facilities. The related report is located in the IDL section of *Supplement 2: Evaluation*.

In 2019, Idaho Power also helped the IDL update their TLL brochure and catalog.

Heat Pump Calculator/Climate Design Tools/TEST

The 2019 Thermal Energy Savings Tool (TEST) development task was a continuation of work done by the IDL. The original tool development began in 2013 and continued through 2016. Over the years, the tool has grown in its capabilities. Initially, a Heat Pump Energy Savings Calculator (HePESC) spreadsheet was developed in 2013, which was capable of hourly load calculations, energy consumption estimates using regression curves from simulation, and simple cost calculations. The tool now incorporates several climate design tools and has been improved over time. Tool improvements have included the following:

- 2014—Methods verified and user feedback incorporated
- 2015—Residential space-type added
- 2016—Climate design tools and new weather files included
- 2017—Outreach, education, and customization provided for users
- 2018—Code defaults updated and continued maintenance and outreach
- 2019—Continued maintenance and outreach

This task was limited to minimal support for Idaho Power staff and other beta version users in 2019. Improvements this year included finalizing the code default option to IECC 2015. The IDL included information on the TEST in many of the Lunch & Learn presentations delivered at architecture and engineering firms in Idaho. The IDL also provided the tool to graduate architecture and engineering students enrolled in the Building Performance Simulation course at the University of Idaho. Students used the tool to estimate changes in heat loads based on envelope alterations as part of a homework assignment. Whenever a user requested access to the tool, the IDL sent the TEST spreadsheet through the service WeTransfer, as 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 their own calculations. As the IDL website is improved, the tool will be hosted online for registered users to request and download after accepting a similar disclaimer. Tool requests were received from three organizations in 2019.

The related report for this task is located in the IDL section of *Supplement 2: Evaluation*.

Building Energy Analytics Case Study

In 2019, IDL began the BEMS Predictive Control Case Study task. The purpose of this task was to evaluate a building analytics system that can take proactive measures to correct building operations and provide potential savings. The IDL assessed the requirements, capabilities and limitations of several predictive building controls technologies. Various sites were evaluated for possible implementation of the BEMS system. Implementation and evaluation will continue in 2020.

The related report for this task is located in the IDL section of *Supplement 2: Evaluation*.

RTU Control Retrofits for Small Commercial

In 2019, IDL completed the Rooftop Unit (RTU) Control Retrofits for Small Commercial task. The purpose of this task was to provide a literature review to determine the lowest cost control strategies that could be implemented with existing RTU equipment. The IDL researched the cost and local availability of various energy management system (EMS) controls for RTU retrofits and evaluated the advantages of retrofitting small RTUs with more advanced controls.

The related report for this task is located in the IDL section of *Supplement 2: Evaluation*.

2020 IDL Strategies

In 2020, IDL will continue work on the Foundational Services, Lunch & Learn sessions, BSUG, New Construction Verifications, Energy Resource Library (formally TLL), Building Energy Analytics Case Study (formally BEMS Predictive Control Case Study), and RTU Control Retrofits for Small Commercial task.

GLOSSARY OF ACRONYMS

A/C—Air Conditioning or Air Conditioner

ACEEE—American Council for an Energy-Efficient Economy

Ad—Advertisement

AEG—Applied Energy Group

AMI—Advanced Metering Infrastructure

aMW—Average Megawatt

ASHRAE—American Society of Heating, Refrigeration, and Air Conditioning Engineers

B/C—Benefit/Cost

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

C&I—Commercial and Industrial

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

CPRSC—Consumer Products Regional Steering Committee

CR&EE—Customer Relations and Energy Efficiency

DHP—Ductless Heat Pump
DOE—US Department of Energy
DSM—Demand Side Management
EA5—EA5 Energy Audit Program
ECM—Electronically Commutated Motor
EEAG—Energy Efficiency Advisory Group
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 System
EOEA—Education and Outreach Energy Advisors
ESK—Energy-Saving Kit
ETO—Energy Trust of Oregon
ft—Feet
ft²—Square Feet
GMI—Green Motors Initiative
GMPG—Green Motors Practice Group
gpm—Gallons per Minute
H&CE—Heating & Cooling Efficiency
HEM-LLC—Home Energy Management, LLC.
HePESC—Heat Pump Energy Savings Calculator
HER—Home Energy Report
hp—Horsepower
HPWH—Heat Pump Water Heater
HSPF—Heating Seasonal Performance Factor
IAQ—Indoor Air Quality
IBCA—Idaho Building Contractors Association
IBCB—Idaho Building Code Board
IBOA—International Building Operators Association
ICC—International Code Council

ICOM—Idaho College of Osteopathic Medicine
ID—Idaho
IDHW—Idaho Department of Health and Welfare
IDL—Integrated Design Lab
IECC—International Energy Conservation Code
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
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 Home Program
NEMA—National Electrical Manufacturers Association
NPR—National Public Radio
NTG—Net to Gross
NWGCC—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
OTT—Over-the-Top
PCA—Power Cost Adjustment
PCT—Participant Cost Test
PLC—Powerline Carrier
PPG—Program Planning Group
PR—Public Relations
PSC—Permanent Split Capacitor
PTCS—Performance Tested Comfort System
QA—Quality Assurance
QC—Quality Control
RAC—Residential Advisory Committee
RAP—Resource Action Programs
RCT—Randomized Control Trial
REEEI—Residential Energy Efficiency Education Initiative
RESNET—Residential Services Network
RETAC—Regional Emerging Technology Advisory Committee
Rider—Energy Efficiency Rider
RIM—Ratepayer Impact Measure
RPAC—Regional Portfolio Advisory Committee
RPAC+—Regional Portfolio Advisory Committee Plus
RPP—Retail Products Portfolio
RTF—Regional Technical Forum
RTU—Rooftop Unit
SA—Scale-Up Approval
SBDI—Small Business Direct Install
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

Simple Steps—Simple Steps, Smart Savings™

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

TV—Television

UCT—Utility Cost Test

UES—Unit Energy Savings

UM—Utility Miscellaneous

US—United States

USGBC—US Green Building Council

VFD—Variable Frequency Drive

VRF—Variable Refrigerant Flow

WAP—Weatherization Assistance Program

WAQC—Weatherization Assistance for Qualified Customers

WHF—Whole-House Fan

WWEEC—Wastewater Energy Efficiency Cohort

APPENDICES

Appendix 1. Idaho Rider, Oregon Rider, and NEEA payment amounts (January–December 2019)

Idaho Energy Efficiency Rider	
2019 Beginning Balance.....	\$ 5,258,957
2019 Funding plus Accrued Interest as of 12-31-19	32,499,978
Total 2019 Funds	37,758,935
2019 Expenses as of 12-31-19.....	(38,069,980)
Ending Balance as of 12-31-2019	\$ (311,045)
Oregon Energy Efficiency Rider	
2019 Beginning Balance.....	\$ (1,397,749)
2019 Funding plus Accrued Interest as of 12-31-19	2,010,108
Total 2019 Funds	612,359
2019 Expenses as of 12-31-19.....	(1,766,639)
Ending Balance as of 12-31-2019	\$ (1,154,280)
NEEA Payments	
2019 NEEA Payments as of 12-31-2019.....	\$ 2,721,070
Total	\$ 2,721,070

Appendix 2. 2019 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.....	\$ 495,703	\$ 30,762	\$ 351,200	\$ 877,665
Easy Savings: Low-Income Energy Efficiency Education.....	—	—	145,494	145,494
Educational Distributions.....	2,989,184	91,688	—	3,080,873
Energy Efficient Lighting.....	2,026,977	99,285	—	2,126,262
Energy House Calls	143,570	18,324	—	161,894
Heating & Cooling Efficiency Program.....	478,560	20,619	—	499,179
Home Energy Audit.....	230,786	—	—	230,786
Multifamily Energy Savings Program.....	115,560	15,745	—	131,306
Oregon Residential Weatherization	—	5,982	—	5,982
Rebate Advantage	148,220	8,529	—	156,748
Residential New Construction Pilot Program	534,118	—	—	534,118
Shade Tree Project	147,750	—	—	147,750
Simple Steps, Smart Savings™	87,599	2,900	—	90,499
Weatherization Assistance for Qualified Customers	—	—	1,303,727	1,303,727
Weatherization Solutions for Eligible Customers	936,721	—	20,905	957,626
Commercial/Industrial				
Commercial and Industrial Energy Efficiency Program .				
Custom Projects	11,614,380	212,991	52,501	11,879,873
New Construction	3,365,862	182,614	—	3,548,476
Retrofits.....	6,131,117	149,939	—	6,281,056
Commercial Energy-Saving Kits ¹	154,632	7,312	—	161,945
Flex Peak Program	75,306	256,606	294,911	626,823
Irrigation				
Irrigation Efficiency Rewards.....	2,449,427	174,120	37,716	2,661,263
Irrigation Peak Rewards	239,523	179,733	6,352,452	6,771,708
Energy Efficiency/Demand Response Total	\$ 32,364,998	\$ 1,457,149	\$ 8,558,905	\$ 42,381,053
Market Transformation				
NEEA.....	2,585,017	136,053	—	2,721,070
Market Transformation Total	\$ 2,585,017	\$ 136,053	\$ —	\$ 2,721,070
Other Programs and Activities				
Commercial/Industrial Energy Efficiency Overhead.....	463,177	29,758	—	492,935
Energy Efficiency Direct Program Overhead	251,229	13,390	—	264,620
Oregon Commercial Audit.....	—	7,262	—	7,262
Residential Energy Efficiency Education Initiative	152,579	8,272	—	160,851
Residential Energy Efficiency Overhead.....	1,293,650	68,615	—	1,362,265
Other Programs and Activities Total.....	\$ 2,160,635	\$ 127,298	\$ —	\$ 2,287,933
Indirect Program Expenses				
Energy Efficiency Accounting & Analysis.....	927,383	44,457	189,173	1,161,013
Energy Efficiency Advisory Group	20,937	1,105	—	22,041
Special Accounting Entries.....	11,009	576	—	11,586
Indirect Program Expenses Total.....	\$ 959,330	\$ 46,138	\$ 189,173	\$ 1,194,640
Grand Total.....	\$ 38,069,980	\$ 1,766,639	\$ 8,748,078	\$ 48,584,696

¹ This program was called in Commercial Education Initiative in the *Demand-Side Management 2018 Annual Report*, Appendix 2.

Appendix 3. 2019 DSM program activity

Program	Participants	Total Costs		Savings		Measure Life (Years)	Nominal Levelized Costs ^a		
		Program Administrator ^b	Resource ^c	Annual Energy (kWh)	Peak Demand ^d (MW)		Utility (\$/kWh)	Total Resource (\$/kWh)	
Demand Response¹									
A/C Cool Credit	23,802 homes	\$ 877,665	\$ 877,665	n/a	23.6	n/a	n/a	n/a	n/a
Flex Peak Program.....	145 sites	626,823	626,823	n/a	31.0	n/a	n/a	n/a	n/a
Irrigation Peak Rewards	2,332 service points	6,771,708	6,771,708	n/a	278.0	n/a	n/a	n/a	n/a
Total.....		\$ 8,276,196	\$ 8,276,196		332.6				
Energy Efficiency									
Residential									
Easy Savings: Low-Income Energy Efficiency Education	430 HVAC tune-ups	145,494	145,494	45,150		3	0.885	0.885	
Educational Distributions	95,528 kits/giveaways	2,880,467	2,880,467	10,805,474		11	0.025	0.025	
Energy Efficient Lighting.....	1,336,440 lightbulbs	2,126,262	2,782,039	16,245,551		14	0.011	0.014	
Energy House Calls.....	248 homes	161,894	161,894	309,154		16	0.039	0.039	
Heating & Cooling Efficiency Program	681 projects	499,179	1,512,183	1,412,343		15	0.028	0.084	
Home Energy Audit	421 audits	230,786	282,215	179,754		11	0.122	0.150	
Home Energy Report Pilot Program ²	24,976 treatment size	200,406	200,406	8,444,746		1	0.018	0.018	
Multifamily Energy Savings Program	457 units	131,306	131,306	346,107		11	0.036	0.036	
Oregon Residential Weatherization	8 audits/projects	5,982	13,992	2,069		45	0.149	0.349	
Rebate Advantage.....	109 homes	156,748	355,897	353,615		44	0.023	0.052	
Residential New Construction Pilot.....	322 homes	534,118	1,411,391	774,597		54	0.035	0.092	
Shade Tree Project.....	2,063 trees	147,750	147,750	35,727		30	0.235	0.235	
Simple Steps, Smart Savings™	5,729 appliances/showerheads	90,499	123,541	271,452		11	0.032	0.043	
Weatherization Assistance for Qualified Customers.....	197 homes/non-profits	1,303,727	1,953,490	649,299		30	0.114	0.171	
Weatherization Solutions for Eligible Customers.....	129 homes	957,626	957,626	504,988		23	0.119	0.119	
Sector Total.....		\$ 9,572,244	\$ 13,059,690	40,380,026		12	\$ 0.021	\$ 0.029	
Commercial/Industrial									
Commercial Energy-Saving Kits	2,629 kits	161,945	161,945	569,594		10	0.029	0.029	
Custom Projects	257 projects	11,879,873	24,590,176	70,433,920		15	0.013	0.027	
Green Motors—Industrial.....	12 motor rewinds			117,223		8			
New Construction	168 projects	3,548,476	5,292,835	20,640,334		12	0.015	0.023	
Retrofits	1,033 projects	6,281,056	17,700,769	42,674,418		12	0.013	0.037	
Sector Total.....		\$ 21,871,350	\$ 47,745,725	134,435,489		14	\$ 0.014	\$ 0.030	

Program	Participants	Total Costs		Savings		Measure Life (Years)	Nominal Levelized Costs ^a	
		Program Administrator ^b	Resource ^c	Annual Energy (kWh)	Peak Demand ^d (MW)		Utility (\$/kWh)	Total Resource (\$/kWh)
Irrigation								
Green Motors—Irrigation	34 motor rewinds			44,705		20	n/a	n/a
Irrigation Efficiency Reward	1,080 projects	\$ 2,661,263	\$ 10,042,514	10,073,455		8	\$ 0.032	\$ 0.120
Sector Total		\$ 2,661,263	\$ 10,042,514	10,118,160		8	\$ 0.031	\$ 0.119
Energy Efficiency Portfolio Total		\$ 34,104,857	\$ 70,847,929	184,933,675		13	\$ 0.016	\$ 0.033
Market Transformation								
Northwest Energy Efficiency Alliance (codes and standards) .				15,571,968				
Northwest Energy Efficiency Alliance (other initiatives)				2,535,716				
Northwest Energy Efficiency Alliance Totals³		\$ 2,721,070	\$ 2,721,070	18,107,684				
Other Programs and Activities								
Residential								
Residential Energy Efficiency Education Initiative		160,851	160,851					
Commercial								
Oregon Commercial Audits	11 projects	7,262	7,262					
Other								
Energy Efficiency Direct Program Overhead		2,119,820	2,119,820					
Total Program Direct Expense		\$ 47,390,056	\$ 84,133,128	203,041,359	333			
Indirect Program Expenses		1,194,640	1,194,640					
Total DSM Expense		\$ 48,584,696	\$ 85,327,768					

^a Levelized Costs are based on financial inputs from Idaho Power's 2017 IRP, and calculations include line-loss adjusted energy savings.

^b The Program Administrator 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% 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. Savings for August 2018–December 2019.

³ Savings are preliminary estimates provided by NEEA. Final savings for 2019 will be provided by NEEA June 2020.

Appendix 4. 2019 DSM program activity by state jurisdiction

Program	Idaho			Oregon		
	Participants	Program Administrator Costs	Demand Reduction (MW)/ Annual Energy Savings (kWh)	Participants	Program Administrator Costs	Demand Reduction (MW)/ Annual Energy Savings (kWh)
Demand Response¹						
A/C Cool Credit	23,517 homes	\$ 846,903	23.3	285 homes	\$ 30,762	0.3
Flex Peak Program.....	136 sites	370,217	19	9 sites	256,606	11.9
Irrigation Peak Rewards	2,281 service points	6,591,859	269	51 service points	179,849	9.5
Total.....		\$ 7,808,979	311		\$ 467,217	22
Energy Efficiency						
Residential						
Easy Savings: Low-Income Energy Efficiency Education	430 HVAC tune-ups	145,494	45,150	0 HVAC tune-ups		
Educational Distributions	92,809 kits/giveaways	2,788,778	10,441,154	2,719 kits/giveaways	91,688	364,320
Energy Efficient Lighting.....	1,279,699 lightbulbs	2,026,977	15,489,769	56,741 lightbulbs	99,285	755,782
Energy House Calls.....	211 homes	143,570	256,317	37 homes	18,324	52,837
Heating & Cooling Efficiency Program	659 projects	478,560	1,358,619	22 projects	20,619	53,725
Home Energy Audit	421 audits	230,786	179,754	0 audits		
Home Energy Report Pilot Program.....	24,976 treatment size	200,406	8,444,746	24,976 treatment size		
Multifamily Energy Savings Program	457 units	115,560	346,107	0 projects	15,745	
Oregon Residential Weatherization	n/a			8 audits/projects	5,982	2,069
Rebate Advantage.....	103 homes	148,220	332,900	6 homes	8,529	20,715
Residential New Construction Pilot Program.....	322 homes	534,118	774,597	0 homes		
Shade Tree Project.....	2,063 trees	147,750	35,727	0 homes		
Simple Steps, Smart Savings™	5,612 appliances/showerheads	87,599	267,043	117 appliances/showerheads	2,900	4,408
Weatherization Assistance for Qualified Customers.....	193 homes/non-profits	1,264,767	639,880	4 homes/non-profits	38,960	9,419
Weatherization Solutions for Eligible Customers.....	129 homes	957,626	504,988	0 homes		
Sector Total.....		\$ 9,270,211	39,116,752		\$ 302,032	1,263,274
Commercial						
Commercial Energy-Saving Kits	2,516 kits	154,632	543,521	113 kits	7,312	26,073
Custom Projects	246 projects	11,664,256	69,228,586	11 projects	215,616	1,205,334
Green Motors—Industrial.....	11 motor rewinds		107,086	1 motor rewinds		10,137
New Construction	160 projects	3,365,862	19,606,137	8 projects	182,614	1,034,197
Retrofits.....	1,002 projects	6,131,117	41,910,007	31 projects	149,939	764,411
Sector Total.....		\$ 21,315,867	131,395,337		\$ 555,482	3,040,153

Program	Idaho			Oregon		
	Participants	Program Administrator Costs	Demand Reduction (MW)/ Annual Energy Savings (kWh)	Participants	Program Administrator Costs	Demand Reduction (MW)/ Annual Energy Savings (kWh)
Irrigation						
Green Motors—Irrigation	34 motor rewinds		44,705	0 motor rewind		
Irrigation Efficiency Rewards	1,045 projects	\$ 2,485,257	9,399,894	35 projects	\$ 176,006	673,561
Sector Total		\$ 2,485,257	9,444,599		\$ 176,006	673,561
Market Transformation						
Northwest Energy Efficiency Alliance (codes and standards)			14,793,369			778,598
Northwest Energy Efficiency Alliance (other initiatives)			2,408,930			126,786
Northwest Energy Efficiency Alliance ²		\$ 2,585,017	17,202,300		\$ 136,053	905,384
Other Programs and Activities						
Residential						
Residential Energy Efficiency Education Initiative		152,579			8,272	
Commercial						
Oregon Commercial Audits				11 audits	7,262	
Other						
Energy Efficiency Direct Program Overhead		2,008,056			111,763	
Total Program Direct Expense		\$ 45,625,966			\$ 1,764,087	
Indirect Program Expenses		1,139,044			55,597	
Total Annual Savings			197,158,987			5,882,372
Total DSM Expense		\$ 46,765,012			\$ 1,819,684	

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 2019 will be provided by NEEA June 2020.