BUILDING OUR FUTURE

September 2023

IRP

INTEGRATED RESOURCE PLAN

APPENDIX B: **DSM ANNUAL REPORT**

IDAHO POWER®

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 remains one of the top-ranked utilities and ranked #3 in the West Midsize Segment of the *J.D. Power 2022 Electric Utility Residential Customer Satisfaction Study*.

In 2022, Idaho Power achieved 169,889 megawatt-hours (MWh) or 19.4 average megawatts (aMW) of incremental energy efficiency savings, including Northwest Energy Efficiency Alliance (NEEA) estimated energy savings, which exceeded the economic technical achievable potential included in the *2021 Integrated Resource Plan* (IRP) of 139,826 MWh or 16 aMW. The 2022 savings represent enough energy to power approximately 14,900 average homes in Idaho Power's service area for one year.

The Commercial and Industrial (C&I) Energy Efficiency Program, which typically provides more than half of the portfolio savings, returned savings 14,218 MWh higher than in 2021. Consequently, the 2022 savings of 169,889 MWh, including the estimated savings from NEEA, increased by 26,968 MWh—a 19% year-over-year increase. The savings from Idaho Power's energy efficiency programs alone, excluding NEEA savings, were 145,440 MWh in 2022 and 126,102 MWh in 2021—a 15% year-over-year increase. Overall, 2022 was a less challenging year than 2021 with regard to energy efficiency program participation due to the easing of COVID-19 restrictions, but supply chain issues, higher labor and material costs, and the maturity of the residential lighting market continued to put downward pressure on program participation.

In 2022, the company's energy efficiency portfolio was cost-effective from both the utility cost test (UCT) and the total resource cost (TRC) test perspectives with ratios of 2.02 and 1.43, respectively. The portfolio was also cost-effective from the participant cost test (PCT) ratio, which was 2.01.

Energy efficiency and demand response are important aspects of Idaho Power's resources to meet system energy needs and are reviewed with each IRP. Idaho Power successfully operated all three of its demand response programs in 2022. The total demand response capacity from the company's programs was calculated to be approximately 312 megawatts (MW) with an actual max load reduction of 200 MW.

Total expenditures from all funding sources of demand-side management (DSM) activities were $43 million in 2022—$31.7 million from the Idaho Rider, $10 million from Idaho Power base rates, and $1.3 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 addition to the education customers get through participation in specific incentive programs for energy efficiency, Idaho Power educates customers on energy efficiency in many other ways. One of these methods is to produce an annual *Energy Efficiency Guide* with information on energy efficiency equipment and ways to use energy wisely. The 2022 guide was distributed in June, primarily as an insert in the *Boise Weekly* and 24 local newspapers. In 2022, Idaho Power's education and outreach energy advisors (EOEA) delivered nearly 670 presentations with energy-savings messages to audiences of all ages.

Figure 1. Example graphic from the *2022 Energy Efficiency Guide*

In 2022, the Integrated Design Lab (IDL) conducted 14 technical training lunches. A total of 100 architects, engineers, designers, project managers, and others attended. The IDL also maintains an Energy Resource Library (ERL) with tools for measuring and monitoring energy use and provides training on how to use them. The library includes over 900 individual pieces of equipment; 69 new tools were added in 2022.

Idaho Power continued to provide training to its commercial and industrial customers in 2022, delivering the equivalent of six full days of technical training to over 150 individuals.

Idaho Power provided three virtual irrigation workshops for the Irrigation Efficiency Rewards and Irrigation Peak Rewards programs and provided one in-person workshop in Oregon. In October, program staff attended the first annual Idaho Farm and Ranch Conference in Boise and hosted a booth.

The company sponsors significant customer educational outreach and awareness activities promoting energy efficiency, and focuses marketing efforts on saving energy—none of which are quantified or claimed as part of Idaho Power's annual DSM savings, but are likely to result in energy savings that accrue to Idaho Power's electrical system over time.

This *Demand-Side Management 2022 Annual Report* provides a review of the company's DSM activities and finances throughout 2022 and 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 has been locally operated since 1916 and serves more than 610,000 customers throughout a 24,000-square-mile area in southern Idaho and eastern Oregon. The company achieves energy and demand savings objectives in both its Idaho and Oregon service areas through the careful management of current programs, the offering of new cost-effective programs, and through customer outreach and education; collectively, the implementation, operation, tracking, and evaluation of these programs and offerings is called demand-side management (DSM).

Results of independent surveys show Idaho Power's efforts to educate and inform customers are successful: the company remains one of the top-ranked utilities for energy efficiency awareness and ranked #3 in the West Midsize Segment of the *J.D. Power 2022 Electric Utility Residential Customer Satisfaction Study*.

Figure 2. Idaho Power service area map

Programs and Offerings

Idaho Power's main objectives for DSM programs are to achieve prudent cost-effective energy efficiency savings and to provide useful and cost-effective demand response programs as determined by the Integrated Resource Plan (IRP) planning process. Idaho Power strives to offer customers valuable programs and information to help them wisely manage their energy usage. DSM programs and offerings by customer sector (residential, commercial/industrial [C&I], and irrigation) are shown in Table 1.

Table 1. DSM programs by sector, operational type, and location, 2022

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
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	Energy Efficiency	ID
Home Energy Report 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 Program	Energy Efficiency	ID
Shade Tree Project	Energy Efficiency	ID
Weatherization Assistance for Qualified Customers	Energy Efficiency	ID/OR
Weatherization Solutions for Eligible Customers	Energy Efficiency	ID
Commercial/Industrial		
Commercial and Industrial Energy 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 Kits	Energy Efficiency	ID/OR
Flex Peak Program	Demand Response	ID/OR
Oregon Commercial Audits	Energy Efficiency	OR
Small Business Direct Install	Energy Efficiency	ID/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

Funding Sources

Energy efficiency and demand response funding comes from multiple sources: Idaho Power base rates, the Idaho and Oregon Energy Efficiency Riders (Riders), and the annual power cost adjustment (PCA) in Idaho. Idaho incentives for the company's demand response programs are recovered through base rates and tracked through the annual PCA, while Oregon demand

response incentives are funded through the Oregon Rider. Total expenditures on DSM-related activities from all funding sources were $43 million in 2022, as shown in Figure 3.

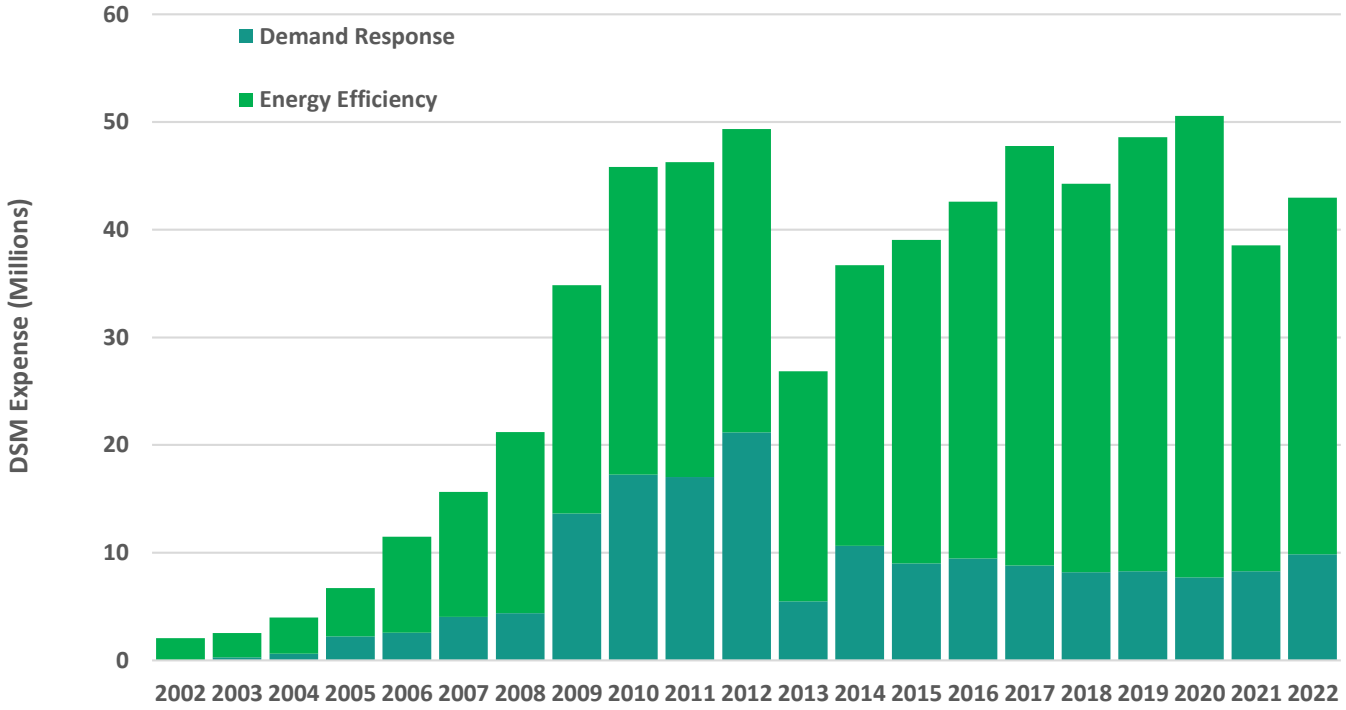


Figure 3. DSM expense history by program type, 2002–2022 (millions [$])

Cost-Effectiveness Goals

Idaho Power considers cost-effectiveness of primary importance in the design, implementation, and tracking of the energy efficiency and demand response programs. Prior to the actual implementation, 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 strives for all programs to have benefit/cost (B/C) ratios greater than one for the utility cost test (UCT), total resource cost (TRC) test, and participant cost test (PCT) at the program and measure levels, where appropriate. Each cost-effectiveness test provides a different perspective, and Idaho Power believes each test adds value when evaluating overall program performance. In 2020, Idaho Power transitioned to using the UCT as the primary cost-effectiveness test for energy efficiency resource planning as directed by the Idaho Public Utilities Commission (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 the effectiveness of a particular program or measure. Additionally, programs and measures offered in Oregon must use the TRC as the primary cost-effectiveness test as directed by the OPUC in Order No. 94-590.

There are many assumptions when calculating the cost-effectiveness of a given program or measure. Savings can vary based on several factors, such as participation levels or the participants' locations. For instance, heat pumps installed in the Boise area will have lower savings than those 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 not cost-effective, Idaho Power works with its Energy Efficiency Advisory Group (EEAG) to obtain input before making its determination on continuing, discontinuing, or modifying an offering. The company must demonstrate why a non-cost-effective measure or program continues to be offered and communicate the steps the company plans to take to improve cost-effectiveness. This aligns with the expectations of the IPUC and the OPUC.

As a result of IPUC Order No. 35336 (IPC-E-21-32) and the Public Utility Commission of Oregon's (OPUC) approval on February 8, 2022 in Docket No. ADV 1355, Idaho Power determines cost-effectiveness for its demand response programs using financial and alternate resource cost assumptions from each IRP.

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

DSM Annual Report Structure

The *Demand-Side Management 2022 Annual Report* consists of this main document and two supplements. The main document contains the following sections related to 2022 DSM activities:

- **Program Performance** is a summary of total energy savings and program expenses, funding, expenditures, and the overall approach to marketing, surveys, evaluations, and cost-effectiveness.
- **Program Activity—Residential, C&I, and Irrigation** provides sector summaries and individual program details, including marketing efforts, cost-effectiveness analyses, customer satisfaction survey results, and evaluation recommendations and responses.
- **Other Programs and Activities** is an overview of DSM-related programs and activities that can span multiple sectors, including market transformation.
- **Appendices 1 through 4** present data related to payments, funding, and program-level costs and savings.

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, the evaluation plan, EEAG meeting notes, links to NEEA evaluations, copies of IDL reports, research and survey reports, evaluation reports, and other reports related to DSM activities.

2022 DSM PROGRAM PERFORMANCE

A summary of the energy efficiency and demand response program performance metrics is presented in this section and in individual program sections later in this report. Appendices 1 through 4 provide additional details on the funding, expenditures, and savings at the program and sector levels.

Energy Savings and Program Expenses

Efficiency

Energy efficiency programs are available to all customer segments 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, Water and Wastewater Cohorts, and the Home Energy Report (HER) Program primarily focus on behavioral energy savings.

Savings from energy efficiency programs are measured on a kilowatt-hour (kWh) or megawatt-hour (MWh) basis. Programs can supply energy savings throughout the year or at different times, depending on the energy efficiency measure. Idaho Power shapes the energy-savings profile based on how end-use equipment uses energy 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 incentives are offered to its residential, irrigation, industrial, large-commercial, small business, government, and school customers to promote a wide range of energy-saving projects.

Idaho Power devotes significant resources to maintain and improve its energy efficiency and demand response programs. The 2022 total savings, including savings from the Northwest Energy Efficiency Alliance (NEEA), were 169,889 MWh. 2022 savings increased by 26,968 MWh compared to the 2021 savings of 142,921 MWh—a 19% year-over-year increase—and represent enough energy to power approximately 14,900 average homes in Idaho Power's service area for one year. The savings from Idaho Power's energy efficiency programs alone, excluding NEEA savings, were 145,440 MWh in 2022 compared to 126,102 MWh in 2021—a 15% year-over-year increase. Savings and expenses are shown in Figure 4.

The 2022 savings results consisted of 28,525 MWh from the residential sector, 109,960 MWh from the C&I sector, and 6,955 MWh from the irrigation sector. The C&I programs contributed

76% of the direct program savings. See Appendix 3 for a complete list of programs and sector-level savings.

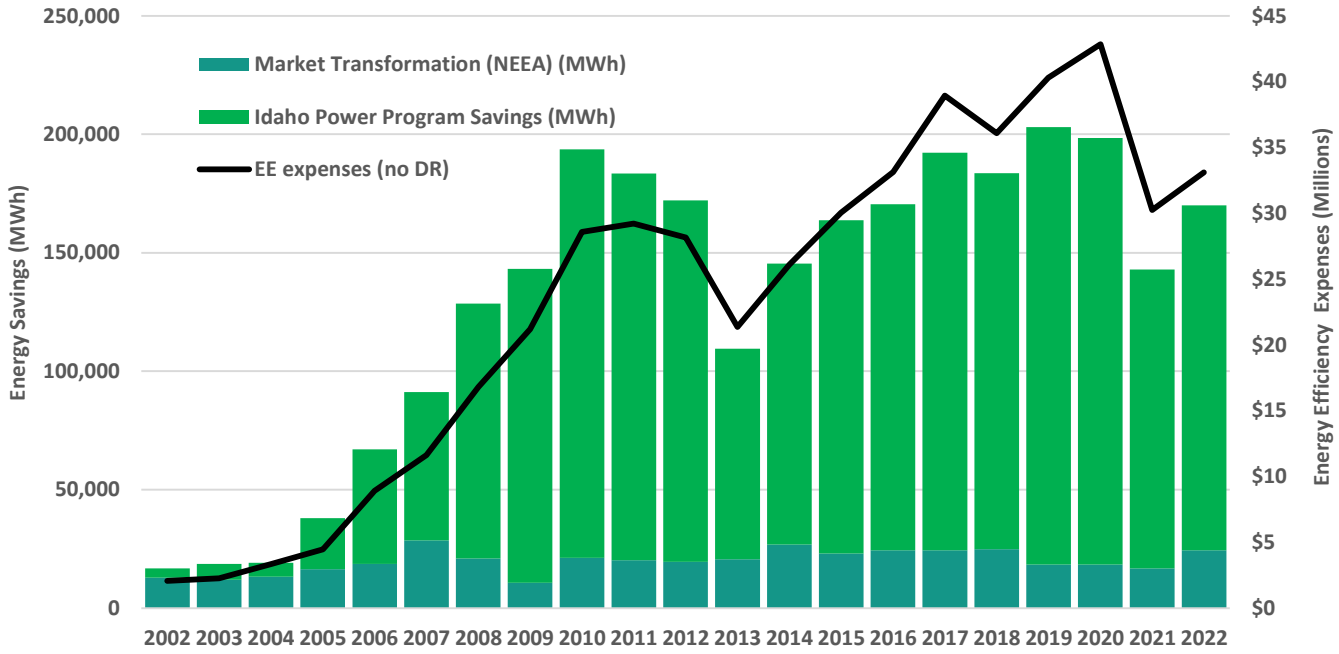


Figure 4. Annual energy savings and energy efficiency program expenses, 2002–2022 (MWh and millions [$])

Demand Response

Idaho Power started its modern demand response programs in 2002 and currently has a capacity of more than 8% of its all-time system peak load available to respond to a system peak load event during the summer. 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 predicted system deficits. Demand response is measured both by the actual demand reduction in megawatts (MW) achieved during events, as well as the potential demand reduction if all programs were used at full capacity.

In summer 2022, Idaho Power utilized all or portions of the programs on 15 different days between June 15 and September 15. The 2022 actual maximum non-coincidental load reduction from all three programs was 200 MW (Figure 5). The total capacity for all three programs was approximately 312 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 actual non-coincidental load reduction (200 MW) is calculated using interval meter data from participants. The maximum capacity (312 MW) is calculated using the total enrolled MW from participants with an expected maximum realization rate for those participants. 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. For the A/C Cool Credit program, the capacity is calculated based on the number of active participants multiplied by the maximum per-unit reduction ever achieved.

The 2022 demand response season was the first to incorporate program modifications approved by the IPUC in Order No. 35336 (IPC-E-21-32) and approved by the OPUC on February 8, 2022, in Docket No. ADV 1355, which replaced the Settlement Agreement set in IPUC Order No. 32923 and OPUC Order No. 13-482, respectively. The program modifications included several operational and incentive changes that allow the demand response programs to better meet the needs of the overall system. Namely, under the new terms, the end of the demand response season was extended from August 15 to September 15 and events may now extend to later in the evening. The orders also approved higher incentive levels to compensate participants for the extended event windows as well as expand the company's ability to market the programs to all potential customers.

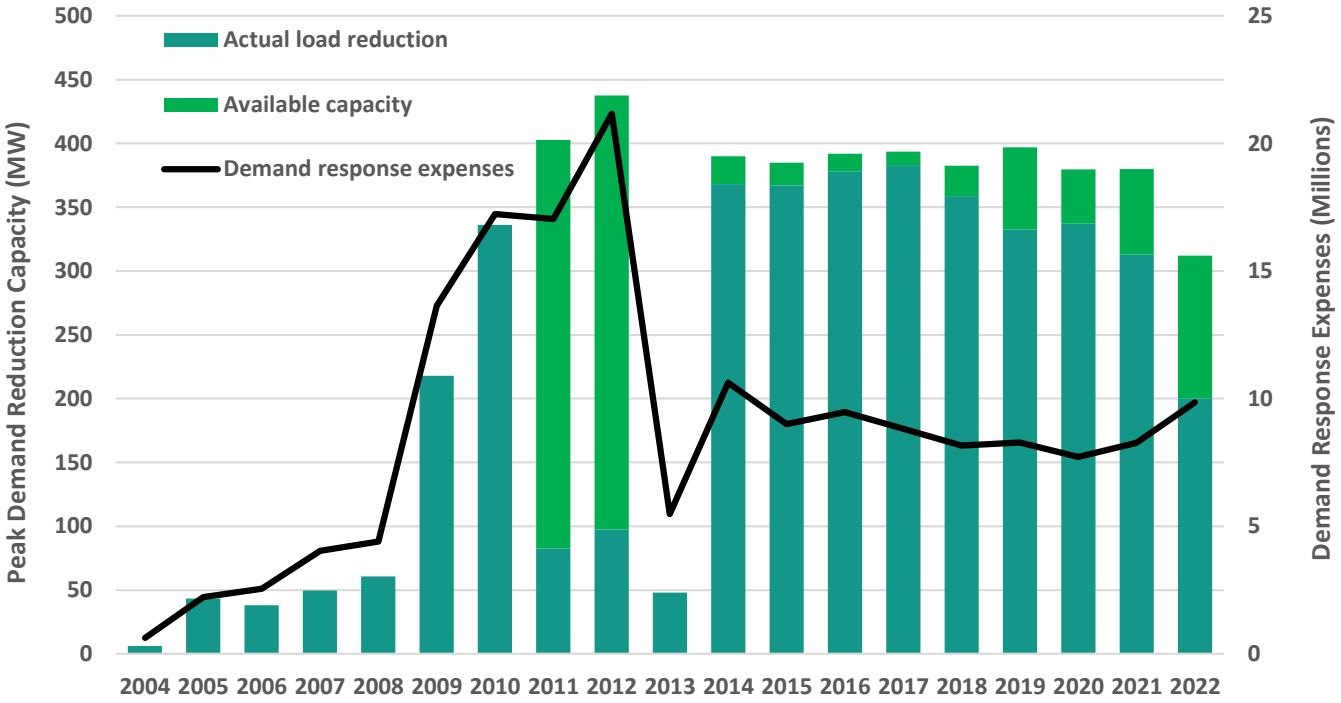


Figure 5. **Peak demand reduction capacity and demand response expenses, 2004–2022 (MW and millions [$])**

Table 2. DSM programs by sector summary and energy usage/savings/demand reduction, 2022

	Program Impacts [a]			Idaho Power System Sales		
	Program Expenses	Energy Savings (MWh)	Peak-Load Reduction (MW)[b]	Sector Total (GWh)[c]	Percentage of Energy Usage	Year-End Number of Customers
Residential	$ 5,690,839	28,525		6,022	38%	518,490
Commercial/Industrial	17,939,548	109,960		7,807	49%	77,431
Irrigation	2,080,027	6,955		1,950	12%	22,071
Market Transformation	2,789,937	24,448				
Demand Response	9,852,529	n/a	200/312			
Direct Overhead/Other Programs	3,103,553	n/a				
Indirect Program Expenses	1,507,146					
Total	**$ 42,963,579**	**169,889**	**200/312**	**15,779**	**100%**	**617,992**

[a.] Data are rounded to the nearest whole unit, which may result in minor rounding differences.

[b.] Maximum actual reduction/maximum potential reduction. Includes 9.7% peak line loss assumptions.

[c] GWh=Gigawatt-hour

DSM Funding and Expenditures

Funding for DSM programs comes from several sources. The Idaho and Oregon Rider funds are collected directly from customers on their monthly bills. The 2022 Idaho Rider was 3.1% of base rate revenues, pursuant to IPUC Order No. 34871. The 2022 Oregon Rider was 4% of base rate revenues. Additionally, Idaho demand response program incentives were funded through base rates and are tracked through the annual PCA mechanism. DSM expenses not funded through the riders are included in Idaho Power's ongoing operation and maintenance (O&M) costs.

Table 3 shows the total expenditures funded by the Idaho and Oregon Riders and Idaho Power base rates resulting in total DSM expenditures of $42,963,579. The non-rider funding category includes the company's demand response incentives in Idaho, Weatherization Assistance for Qualified Customers (WAQC) expenses, and O&M costs.

Table 3. 2022 funding source and energy savings

Funding Source	Expenses [a]	MWh Savings
Idaho Rider	$ 31,673,550	166,233
Oregon Rider	1,285,478	3,360
Idaho Power Base Rates	10,004,551	295
Total	**$ 42,963,579**	**169,889**

[a] Dollars are rounded to the nearest whole unit, which may result in minor rounding differences.

Table 4 and Figure 6 present 2022 DSM program expenditures by category. While the Incentive Expense category illustrates the amount paid directly to customers for their participation in an energy efficiency or demand response program, other categories include items or services that directly benefited customers. The expenses in the Materials & Equipment category were primarily for various kit programs ($930,698) and direct-install weatherization measures

($125,000). Most expenses in the Other Expense category were for marketing ($1,307,293), Custom Projects energy audits ($321,686), program evaluations ($290,983), program trainings ($88,151), and program expenses ($20,466). The Purchased Services category includes payments made to NEEA ($2,789,937), WAQC CAP agencies ($1,212,534), and third-party contractors who help deliver Idaho Power's programs.

Table 4. 2022 DSM program expenditures by category

Program Expenditure Category		Total [a]	% of Total
Incentive Expense	$	25,672,977	59.8%
Labor/Administrative Expense		4,021,552	9.4%
Materials & Equipment		1,097,458	2.6%
Other Expense		2,042,340	4.8%
Purchased Services		10,129,252	23.6%
Total	**$**	**42,963,579**	**100%**

[a] Dollars are rounded to the nearest whole unit, which may result in minor rounding differences.

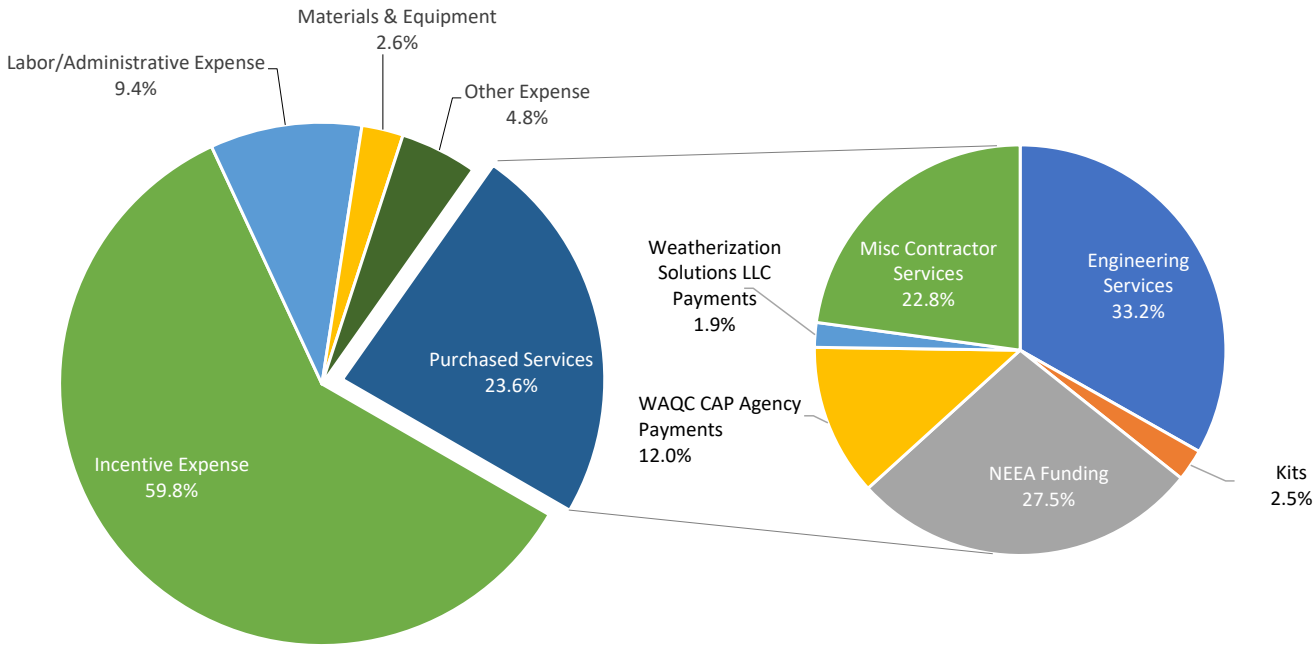


Figure 6. 2022 DSM program expenditures by category

Table 5. 2022 DSM program incentive totals by program type and sector

Program Type—Sector [a, b]		Total [c]	% of Total
DR—Residential	$	379,634	1.5%
DR—Commercial/Industrial		430,322	1.7%
DR—Irrigation		7,895,971	30.8%
EE—Residential		1,836,424	7.2%
EE—Commercial/Industrial		13,461,084	52.4%
EE—Irrigation		1,669,543	6.5%
Total	**$**	**25,672,977**	**100%**

[a] DR = demand response
[b] EE = energy efficiency
[c] Dollars are rounded to the nearest whole unit, which may result in minor rounding differences.

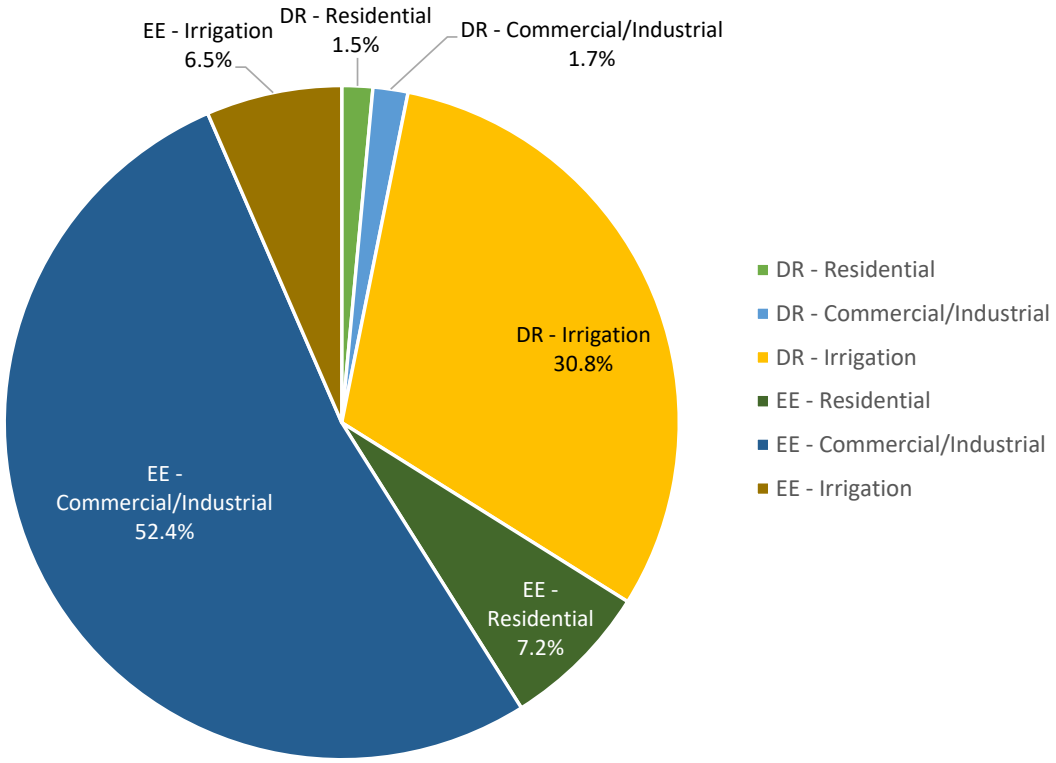


Figure 7. Percent of DSM program incentive expenses by program type and sector, 2022

Customer Education

Idaho Power produced an *Energy Efficiency Guide* in 2022 and distributed it in June, primarily as an insert in the *Boise Weekly* and 24 local newspapers. As COVID-19 concerns declined, Idaho Power was able to re-engage with customers in person to discuss energy efficiency at 42 community events. Idaho Power also distributed 1,550 copies of the *30 Simple Things You Can Do to Save Energy* booklet directly to customers. In 2022, Idaho Power's program specialists and education and outreach energy advisors (EOEA) delivered nearly 670 presentations and trainings with energy savings messages to audiences of all ages.

Efforts to enhance digital communication continued—with the goal of bringing a variety of energy and money-saving tips to a broad range of customers.

Idaho Power supports the Integrated Design Lab (IDL), which conducted Lunch & Learn sessions to educate architects, engineers, and other design and construction professionals about various energy efficiency topics. In 2022, the IDL conducted 14 in-person technical training sessions with 100 architects, engineers, designers, project managers, and other interested parties. Also, IDL hosted six virtual Building Simulation Users Group (BSUG) sessions with 195 professionals attending.

The IDL also maintains an Energy Resource Library (ERL) with tools for measuring and monitoring energy use and provides training on how to use them. The ERL includes over 900 individual pieces of equipment and 69 new tools were added in 2022. In 2022, the ERL home page had 2,768 visitors.

Over the course of 11 days in 2022, Idaho Power delivered six equivalent full-time days of live, online, technical training sessions at no cost to the customers. Topics included the following:

- HVAC System Testing for Energy Efficiency
- Motors and Variable Frequency Drives (VFD)
- Fan System Training
- Chilled Water System and Cooling Towers
- Compressed Air Training

The level of participation in 2022 remained high, with 216 individuals signing up for the sessions and 150 unique logins. Due to the virtual nature of the course, in some cases there were multiple attendees at a single login location.

Idaho Power offered four live, online, technical training sessions to industrial wastewater customers that were attended by 50 participants. Topics included the following:

- Water Energy Basics
- Wastewater Typical No-/Low-Cost Opportunities
- Pumps and Efficiency
- Activated Sludge Basics

Aside from the classes listed above, Idaho Power also partnered with the Northwest Energy Efficiency Council (NEEC) to administer a Building Operator Certification Level I Course which began in November 2021 and was completed in May 2022. Idaho Power sponsored 17 customers who signed up for the training by paying $900 of the $1,895 tuition cost.

Idaho Power provided three virtual irrigation workshops for the Irrigation Efficiency Rewards and Irrigation Peak Rewards programs and provided one in-person workshop in Oregon. In

October, program staff attended the first annual Idaho Farm and Ranch Conference in Boise and hosted a booth.

Marketing

Idaho Power used multi-channel marketing and public relations (PR) strategies in 2022 to improve communication and increase energy efficiency program awareness among its customers. The company employs a wide variety of media and marketing, including owned media (social, website, and newsletters) and paid media (advertising and sponsorships), which allow Idaho Power to control the content. Earned unpaid media (news coverage, Idaho Power's *News Briefs* sent to reporters, third-party publications, and television news appearances) gives Idaho Power access to a broader audience through alternative channels that help establish credibility and brand trust. Though the company has less control with earned unpaid media, the value is established through the third-party endorsement.

Idaho Power's marketing staff networks with organizations across the region and industry to track 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 learn what works in other regions, Idaho Power staff virtually attended several conferences and webinars in 2022, such as the E Source Utility Marketing Executive Council and Forum in September.

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

Social Media

Approximately 25% of the company's total social media content promoted energy efficiency in 2022. Idaho Power regularly posted content 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 who posted their own social media content about Idaho Power programs. Idaho Power's Facebook and Twitter pages hosted two customer sweepstakes giveaways, encouraging customers to enter by leaving a comment about how they save energy in the summer or winter.

Facebook, Twitter, and LinkedIn all remain as priority channels for engaging and communicating directly with customers on energy efficiency tips and program offerings.

At the end of 2022, Idaho Power had approximately 25,100 followers on Facebook, 6,950 on Twitter, 14,345 on LinkedIn, and 3,000 on Instagram.

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 2022, the company's energy efficiency homepage received 10,235 page views, the residential landing page received 98,014 views, and the business and irrigation landing pages received 21,243 views. 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 PR staff supported energy efficiency programs and activities through: videos telling energy efficiency success stories; *Connections*, a customer newsletter distributed in 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; and public events, such as incentive check presentations.

In 2022, the January and June issues of *Connections* were devoted to energy efficiency, with additional energy efficiency content for small business customers in the February issue. The January issue included a variety of ideas for energy-saving tips, such as efficient thermostat settings, the benefits of induction cooking, and knowing when to replace home appliances for more efficient options. The June edition featured a residential customer energy-saving success story, including information on how a local couple saves energy in the summer, as well as information about how summer temperatures impact energy use, low-cost energy efficiency improvement, and using My Account to control your energy use.

With another hot summer throughout the company's service area, energy efficiency information for staying cool during high temperatures was once again shared across the company's owned media channels and with regional media outlets. Social media messaging included tips about how to save energy during the high demand hours from 4 to 9 p.m.

To recognize National Dairy Month in June 2022, Idaho Power shared multiple pieces of content through social media, *News Briefs,* and videos, with a portion of the information focused on energy efficiency. The company produced a new video highlighting local ice cream maker, The STIL, including how energy and energy efficiency factor into their business. The company also produced a short Instagram video highlighting a local dairy farmer who works closely with Idaho Power for their power and energy efficiency needs.

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.

Customer Relationship Survey

Relationship surveys measure the satisfaction of several aspects of a customer's relationship with Idaho Power, including energy efficiency, at a very high level. As such, the surveys are not intended to measure all aspects of the energy efficiency programs.

The *2022 Burke Customer Relationship Survey* asked two questions related specifically to satisfaction with Idaho Power's energy efficiency programs: 1) Have you participated in an Idaho Power energy efficiency program? 2) Overall, how satisfied are you with the energy efficiency program? In 2022, 20.7% of the survey respondents across all sectors indicated they participated in an Idaho Power energy efficiency program, and 91.7% were "very" or "somewhat" satisfied with the program they participated in.

The sector-level results of the annual 2022 survey are discussed in the Residential, C&I, and Irrigation Sector Overview sections of this report.

Customer Satisfaction Surveys

To ensure meaningful survey results, Idaho Power conducts program research every two to three years unless programs have been changed significantly. Throughout 2022, 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*.

Evaluations

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 bidding 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 the evaluations and research to continuously refine its DSM programs.

In 2022, Idaho Power contracted third-party evaluators to conduct program evaluations for the following programs: HER Program (impact evaluation), C&I New Construction (impact and process evaluation), C&I Retrofits (impact and process evaluation), and Commercial Energy-Saving Kits (Commercial ESK) (impact and process evaluation).

External program administrators compiled program summary reports for the Student Energy Efficiency Kits (SEEK) program and the HER program, and the company conducted internal analyses for the A/C Cool Credit, Flex Peak, and Irrigation Peak Rewards programs.

To support Idaho Power's long-term planning through the IRP, both an Energy Efficiency Potential Study and Demand Response Potential Study were completed in 2022. Idaho Power engaged a third party, and utilizing Idaho Power's customer data and industry information, a 20-year forecast of energy efficiency savings and megawatts of program potential for demand response was estimated. The information from these studies is being used in the 2023 IRP.

A summary of the results of these evaluations is available in the respective program sections. An evaluation schedule and the final reports from evaluations, studies, and research completed in 2022 are provided in *Supplement 2: Evaluation*.

Cost-Effectiveness Results

A summary of the cost-effectiveness metrics calculated for the energy efficiency programs in 2022 is provided in Table 6. Details on the cost-effectiveness assumptions and data are included in *Supplement 1: Cost-Effectiveness*.

Table 6. Cost-effectiveness summary by energy efficiency program

Program/Sector	UCT	TRC	Ratepayer Impact Measure (RIM)	PCT
Educational Distributions	1.31	1.62	0.38	n/a
Energy Efficient Lighting	1.68	1.52	0.41	4.35
Energy House Calls[1]	0.70	0.77	0.27	n/a
Heating & Cooling Efficiency Program	0.98	0.30	0.34	0.76
Home Energy Report Program[2]	0.71	0.79	0.25	n/a
Multifamily Energy Savings Program[3]	0.49	0.68	0.25	n/a
Rebate Advantage	1.18	0.54	0.34	1.56

Program/Sector	UCT	TRC	Ratepayer Impact Measure (RIM)	PCT
Residential New Construction Program	1.45	0.84	0.41	1.70
Shade Tree Project	1.02	1.21	0.47	n/a
Weatherization Assistance for Qualified Customers	0.17	0.32	0.13	n/a
Weatherization Solutions for Eligible Customers	0.15	0.23	0.11	n/a
Residential Energy Efficiency Sector[4]	**1.00**	**0.76**	**0.34**	**2.89**
Commercial and Industrial Energy Efficiency Program				
Custom Projects	2.88	1.12	0.88	1.17
New Construction	4.25	3.64	0.68	5.41
Retrofits	2.01	1.11	0.57	1.61
Commercial Energy-Saving Kits	0.78	0.87	0.39	n/a
Small Business Direct Install	0.95	1.50	0.43	n/a
Commercial/Industrial Energy Efficiency Sector[5]	**2.71**	**1.34**	**0.73**	**1.71**
Irrigation Efficiency Rewards	2.69	2.54	0.79	2.66
Irrigation Energy Efficiency Sector[6]	**2.69**	**2.54**	**0.79**	**2.66**
Energy Efficiency Portfolio[7]	**2.02**	**1.43**	**0.64**	**2.01**

[1] Program closed June 30, 2022.

[2] Cost-effectiveness based on 2022 savings and expenses. Cost-effectiveness ratios also calculated for the program life-cycle. Program life-cycle UCT and TRC 1.17 and 1.29, respectively.

[3] Program closed December 31, 2022.

[4] Residential sector cost-effectiveness excludes WAQC benefits and costs. If included, the UCT ,TRC, RIM, and PCT would be 0.84, 0.67, 0.32, and 2.56, respectively.

[5] C&I Energy Efficiency Sector cost-effectiveness ratios include savings and participant costs from Green Motors Rewinds.

[6] Irrigation Energy Efficiency Sector cost-effectiveness ratios include savings and participant costs from Green Motors Rewinds.

[7] Portfolio cost-effectiveness excludes WAQC benefits and costs. If included, the UCT, TRC, RIM, and PCT would be 1.94, 1.40, 0.63, and 2.00, respectively.

2022 DSM PROGRAM ACTIVITY

Residential Sector Overview

In 2022, Idaho Power's residential sector consisted of 512,803 customers averaged throughout the year; Idaho customers averaged 498,921 and eastern Oregon averaged 13,882. The average number of residential sector customers grew by 12,716 in 2022, an increase of 2.5% from 2021. The residential sector represented 38.3% of Idaho Power's actual total billed electricity usage and 47.0% of overall retail revenue in 2022.

Table 7 shows a summary of 2022 participants, costs, and savings from the residential energy efficiency programs.

Table 7. Residential sector program summary, 2022

		Total Cost		Savings	
Program	Participants	Utility	Resource	Annual Energy (kWh)	Peak Demand (MW)[1]
Demand Response					
A/C Cool Credit	19,127 homes	$ 829,771	$ 829,771		20.1/26.8
Total		**$ 829,771**	**$ 829,771**		**20.1/26.8**
Energy Efficiency					
Easy Savings: Low-Income Energy Efficiency Education	267 HVAC tune-ups	152,718	152,718	22,755	
Educational Distributions	49,136 kits/giveaways	1,086,813	1,086,813	3,741,954	
Energy Efficient Lighting	370,739 lightbulbs	534,982	714,445	1,728,352	
Energy House Calls	52 homes	38,163	38,163	54,516	
Heating & Cooling Efficiency Program	1,080 projects	666,016	2,414,026	1,310,260	
Home Energy Audit	425 audits	184,858	239,783	28,350	
Home Energy Report Program	104,826 treatment size	964,791	964,791	20,643,379	
Multifamily Energy Savings Program	97 [3] units [buildings]	34,181	34,181	41,959	
Oregon Residential Weatherization	7 audits/projects	8,825	8,825	0	
Rebate Advantage	97 homes	167,622	402,649	255,541	
Residential New Construction Program	109 homes	235,732	578,922	337,562	
Shade Tree Project	1,874 trees	128,856	128,856	39,595	
Weatherization Assistance for Qualified Customers	147 homes/non-profits	1,281,495	2,028,513	272,647	
Weatherization Solutions for Eligible Customers	27 homes	205,788	205,788	48,233	
Total		**$ 5,690,839**	**$ 8,998,473**	**28,525,103**	

Notes:

See Appendix 3 for notes on methodology and column definitions.

Totals may not add up due to rounding.

[1] Demand response program reductions are reported with 9.7% peak loss assumption. Maximum actual demand reduction/maximum demand capacity.

Residential DSM Programs

A/C Cool Credit. A demand response program that gives residential customers a credit for allowing Idaho Power to cycle their air conditioning (A/C) units during periods of high energy demand or for other system needs.

Easy Savings: Low-Income Energy Efficiency Education. A program offering coupons to income qualified customers for HVAC tune-ups and one-on-one energy savings education.

Educational Distributions. A multifaceted approach to educating residential customers about their energy consumption, including giving away various efficient products and engaging elementary students with in-class and at-home activities.

Energy Efficient Lighting. The Energy Efficient Lighting program provides incentives directly to manufacturers or retailers, so that discounted prices are passed on to the customer at the point of purchase.

Energy House Calls. A program designed specifically for owners of manufactured homes to test and seal ducting and offer energy-efficient products designed to reduce energy costs.

Heating & Cooling Efficiency Program. Providing incentives to customers and builders who upgrade existing homes or build new ones using energy-efficient heating and cooling equipment and services.

Home Energy Audit. Idaho customers living in multifamily homes with discrete meters or single-family homes pay a reduced price for an energy audit to identify energy efficiency improvement opportunities. Participants may receive energy-efficient products for no additional cost.

Home Energy Report Program. A program that sends Idaho customers energy reports to help them understand their energy use and provides energy efficiency tips and incentive information.

Multifamily Energy Savings Program. A program offering renters in multifamily buildings energy-efficient products designed to reduce energy use and power costs.

Oregon Residential Weatherization. No-cost energy audits for Oregon customers who heat with electricity.

Rebate Advantage. Financial incentives for customers who buy energy-efficient manufactured homes and for the people who sell them.

Residential New Construction Program. Idaho Power offers builders a cash incentive to construct energy-efficient, above code, single family, all-electric homes that use heat pump technology for its Idaho customers.

Shade Tree Project. A tree giveaway program for Idaho customers. To maximize summer energy savings, Idaho Power provides participants with a variety of resources to encourage successful tree growth.

Weatherization Assistance for Qualified Customers and Weatherization Solutions for Eligible Customers. Energy-efficient products, services, and education for customers who meet income requirements and heat with electricity.

Marketing

Idaho Power ran a multi-faceted advertising campaign in the spring (May and June) 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 ads, digital ads, sponsorships, Facebook ads, and boosted posts aimed at a variety of customer demographics across the service area. New in 2022, the company added podcast advertising, college sports sponsorships, and two new seasonally relevant contests: Smart Summer Savings Giveaway and Kitchen Gadgets Galore Winter Giveaway.

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 2022. The company emails only customers who have supplied their addresses for other business purposes (signing up for paperless billing, for example). Energy efficiency promotional emails included heating and cooling tips, summer and winter contest promotion, seasonal energy efficiency tips, and various program promotions. Detailed information can be found in respective program sections.

Digital

During the spring campaign, web users were exposed to 4,410,758 display ads (animated GIF 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 4,009 times, resulting in a click-through rate of 0.09%. In the fall, the display ads received 4,904,771 impressions and 4,925 clicks, resulting in a click-through rate of 0.08%.

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 530,211 impressions and 54,374 clicks throughout the year.

Podcasts

New in 2022, Idaho Power added podcast advertising to the media mix: 30-second Idaho Power audio ads, called “dynamic ads,” were inserted into a listener’s podcast if they resided in the company’s service area. The ads targeted customers by the type of listener rather than being run on a specific show. Types of shows that featured Idaho Power ads appealed to listeners, such as green-living enthusiasts, customers interested in home improvement/home repair, and homeowners age 18 and over. The ads received 521,803 impressions in spring. Fall podcast ads garnered 390,787 impressions.

Television

Idaho Power used network television and Hulu advertising for the spring and fall campaigns. 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 Rokus, Apple TVs, or Amazon Fire TVs. The network television campaigns focused on primetime and news programming that reaches the highest percentage of the target market, adults aged 25 to 64.

During the spring campaign, an ad ran 816 times in the Boise, Pocatello, and Twin Falls media markets on network television. The ad reached 30% of the Boise area target audience, 48% of the Twin Falls area target audience, and 60% of the Pocatello area target audience. The target audience saw the ad 16.5 times in Boise, 16.6 times in Twin Falls, and 17.5 times in Pocatello. Hulu spring ads delivered 690,171 impressions with a 97.8% completion rate. OTT ads delivered 425,539 impressions with a 97.91% video completion rate. The spring campaign also used Spanish network television ads: the Boise target audience saw 147 paid spots, and the Pocatello market saw 49 spots. Spanish TV ads ran during the fall campaign as well; the Boise target audience saw 86 paid spots, and the Pocatello audience saw 150 spots. Ad reach and frequency information are not available for Spanish stations.

During the fall campaign, the TV spot ran 531 times in the Boise, Pocatello, and Twin Falls media markets. The ads reached 30% of the Boise target audience, 43% of the Twin Falls target audience, and 60% of the Pocatello target audience. The target audience saw the ad 4.5 times in Boise, 5.4 times in Twin Falls, and 5 times in Pocatello. Hulu ads received 699,807 completions. OTT ads delivered 536,610 impressions with a 97.5% video completion rate.

Idaho Power also sponsored commercials on Idaho Public Television in the Boise and Pocatello markets that ran a total of 56 times in the spring and 65 times in the fall.

In 2021, the television station began charging for each energy efficiency television segment. Idaho Power paid for three segments in 2022 with topics that included energy-efficient spring and fall tips and ways to beat the summer heat.

Radio

As part of its spring and fall campaigns, Idaho Power ran 30-second radio spots on major commercial radio stations in the service area. To obtain optimal reach, the spots ran on several station formats, including classic rock, news/talk, country, adult alternative, rock, sports, and classic hits. The message was targeted toward adults ages 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 areas. During the spring campaign, Idaho Power ran 2,456 English radio spots. These spots reached 46% of the target audience in Boise, 67% in Pocatello, and 66% in Twin Falls. The target audience was exposed to the ad 7.6 times in Boise, 9.7 times in Pocatello, and 8.8 times in Twin Falls. During the fall campaign, the company ran 2,246 English radio spots. These spots reached 39.7% of the target audience in Boise, 57.8% of the target audience in Pocatello, and 65.6% of the target audience in Twin Falls. The target audience was exposed to the message 7.6 times in Boise, 8.6 times in Pocatello, and 9.6 times in Twin Falls during the fall campaign.

In spring, Idaho Power also ran 419 ads on Spanish-speaking radio stations and 294 National Public Radio (NPR) ads in the service area targeting adults ages 25 to 54. The fall campaign included 372 Spanish ads and 317 NPR ads.

Idaho Power ran 30-second spots with accompanying visual banner ads on Pandora internet radio, which mobile and web-based devices access. In the spring, records show 697,749 impressions and 89 clicks to the Idaho Power residential energy efficiency web page. The fall ads yielded 692,623 impressions and 45 clicks. Ads also ran on Spotify internet radio and yielded 288,504 impressions and 195 clicks in the spring and 374,041 impressions with 129 clicks in the fall.

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, *Idaho Magazine*, *Boise Lifestyle* and *Meridian Lifestyle* magazines, and *IdaHome Magazine.* The spring ads highlighted individual energy efficiency tips, such as using the power-save setting on electronics and running ceiling fans counterclockwise for summer. The fall ads featured tips on minimizing gadgets (use one at a time) and using smart power strips.

In 2022, Idaho Power updated the program information in a spiral-bound guide outlining each of the residential energy efficiency programs, tips, and resources. The updated guide will be included in the 2023 Welcome Kits. The previous edition of the guide was included in

2021 Welcome Kits, provided to WAQC customers, and shared with customers who attended events Idaho Power participated in before the COVID-19 restrictions.

Social Media

Three Facebook ads for the 2022 energy efficiency campaign received 90,664 impressions and 909 clicks per ad.

Throughout the year, Idaho Power used Facebook and Twitter posts and boosted Facebook posts for various programs and easy energy efficiency tips for customers to implement at home and at work.

Out-of-Home

In 2022, Idaho Power participated in several tactics referred to as out-of-home advertising. Out-of-home advertising attempts to reach customers when they are outside of their homes. The tactics helped maintain energy efficiency program awareness throughout the year. Tactics included a full-side bus wrap on a Pocatello Regional Transit bus in Eastern Idaho.

Idaho Power sponsored the Boise Hawks (minor league baseball team) from May through September. As part of the sponsorship package, Idaho Power received a 15-second digital ad on the four screens within the stadium. The company's energy efficiency ad was shown a total of 13,589 times during the 48-game season and the overall season attendance was 160,582. Boise Hawks use a special TV system called In-Stadium Media (ISM), which can tell how often spectators look at screens. The average interaction/engagement rate was 52%, which is above the industry standard of 42%. Two 15-second Idaho Power commercials were also shown during the Boise Hawks Facebook Live Broadcast for all games.

A Boise State University (BSU) sponsorship was also part of the marketing strategy in 2022. Energy efficiency messaging was featured at Albertsons Stadium during football games and included digital concourse signage, a game co-sponsorship and table, logo recognition on the digital game program cover, and the Idaho Power logo included on promotional materials leading up to the game. The BSU basketball sponsorship included a 30-second digital ribbon board that rotated throughout the game.

Sponsoring sporting events at Idaho State University (ISU) was also part of the marketing plan. The sponsorship included two permanent banners located in each end zone of Holt Arena, which has an annual attendance of over 500,000. Idaho Power was also recognized during each home football game by being the presenting sponsor of the "Idaho Power Helmet Shuffle Game" shown on the big screen. ISU basketball games featured an Idaho Power animated graphic (for two minutes of each game) featured on the LED courtside board.

Idaho Power used weather-triggered billboards in Boise, Pocatello, Nampa, and Caldwell. These are electronic billboards operating in January and July with variable messaging based on

the outside temperatures. This tactic keeps energy efficiency top-of-mind and demonstrates simple ways customers can reduce energy use during extreme weather.

Idaho Power also used static billboards to reach customers in rural areas. A Spanish billboard was placed in Kimberly (near Twin Falls) and an English billboard was placed in Heyburn (by Burley).

Public Relations

Many of the company's PR activities focused on the residential sector. Energy-saving tips in *News Briefs*, TV segments, news releases, and *Connections* newsletter articles aim to promote incentive programs and/or educate customers about behavioral or product changes they can make to save energy in their homes.

See the Program Performance section and the C&I Sector Overview for more 2022 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 2,000 actively engaged members from across Idaho Power's service area. Idaho Power typically sends these members between six and 12 surveys per year. In 2022, Idaho Power included ten energy efficiency messages with survey invitations resulting in nearly 13,500 touchpoints.

Recruitment for the Empowered Community is conducted annually to refresh the membership. Throughout February and March 2022, various types of recruitment were conducted with residential customers, including messages on paperless billing emails, a *News Brief* to local media outlets, pop-up ads on My Account, direct emails, and social media posts. In 2022, 1,017 new members were added to Empowered Community.

Seasonal Sweepstakes

In 2022, Idaho Power ran two seasonally focused energy efficiency sweepstakes—the Smart Summer Savings Summer Giveaway in August and the Kitchen Gadgets Galore Giveaway in December. Both sweepstakes aimed to maintain awareness about energy efficiency and the impact a small change can make.

The summer sweepstakes ran August 15 through 24 and received 2,774 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 one of 10 smart thermostats. The sweepstakes was promoted with email messaging to 287,449 customers, and social media posts reached 9,108 customers, receiving 697 engagements (likes, comments, shares). The sweepstakes was also promoted on idahopower.com through a pop-up ad on the My Account homepage.

The winter sweepstakes ran December 2 through 16 and received 10,428 entries. Customers were asked to comment—through social media or on the Idaho Power website—with a way they saved energy in the cold winter months. In return, participants were entered to win one of five kitchen gadget bundles that included an air fryer, pressure cooker, electric tea kettle and smart coffee pot. The sweepstakes was promoted with email messaging to 307,431 customers and paid social media posts reached 1,300 customers, receiving 424 post engagements. The sweepstakes was also promoted through a pop-up ad on the company's My Account homepage. It was featured in *News Briefs* to media outlets and was promoted on idahopower.com.

Customer Satisfaction

Idaho Power conducts the *Burke Customer Relationship Survey* each year. In 2022, on a scale of zero to 10, residential survey respondents rated Idaho Power 7.88 regarding offering programs to help customers save energy, and 7.80 related to providing customers with information on how to save energy and money.

Twenty-one percent of residential 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, 93% were "very" or "somewhat" satisfied with the program.

Idaho Power customer awareness of energy efficiency programs is among the highest in the nation: 65.2% of the residential respondents in the *J.D. Power and Associates 2022 Electric Utility Residential Customer Satisfaction 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 were unaware of the programs. Idaho Power ranked third out of 17 utilities included in the West Midsize Segment of this study.

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

Field Staff Activities

In 2022, Idaho Power's residential and commercial energy advisors and EOEAs continued connecting with customers through in-person meetings, presentations, and events to promote energy efficiency programs and offerings. More than 90% of these interactions were in person. The year also saw a return of the large legacy events including home and garden shows, as well as career, STEM, and science fairs. Energy advisors dedicated a larger percentage of their time to presentations and events at secondary schools, colleges, universities, and trade schools, as well as civic and community audiences.

Idaho Power continued to focus on the training and development of its energy advisors to expand their knowledge, skills, and abilities related to energy efficiency programs,

new technologies, and serving customers. One of the highlights during the year was an offering of a residential building science class by an external trainer who shared insights and perspectives about windows, insulation, building envelope, appliances, HVAC, and other residential measures. Idaho Power also held specific training classes on lighting, building envelope, HVAC, pumps, motors, and refrigeration.

A/C Cool Credit

		2022	2021
Participation and Savings			
	Participants (homes)	19,127	20,995
	Energy Savings (kWh)	n/a	n/a
	Demand Reduction (MW)*	20.1/26.8	26.7/29.4
Program Costs by Funding Source			
	Idaho Energy Efficiency Rider	$429,722	$420,376
	Oregon Energy Efficiency Rider	$24,491	$25,366
	Idaho Power Funds	$375,558	$306,247
	Total Program Costs—All Sources	$829,771	$751,989
Program Levelized Costs			
	Utility Levelized Cost ($/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

*Maximum actual demand reduction/maximum potential demand reduction. Demand response program reductions are reported with 9.7% peak loss assumptions.

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 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 periods of high energy demand or for other system needs.

Customers' A/C units are controlled using switches that communicate by powerline carrier (PLC) using the same system used by Idaho Power's advanced metering infrastructure (AMI). 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 is turned off by the switch. For instance, with a 50% cycling rate, the switch will cycle the A/C unit off for about 30 (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 September 15 (excluding weekends and holidays)
- Up to four hours per day
- A maximum of 16 hours per week and 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 2022, a new tariff was filed and approved to update the cycling season guidelines so the program could run from June 15 to September 15. Before the updates, the cycling season ran from June 15 to August 15. The extended cycling season proved beneficial when there were higher than average temperatures during the first half of September, which resulted in events being called on three days that wouldn't have been available prior to the change.

In 2022, 19,127 customers participated in the program, with 217 in Oregon and 18,910 in Idaho. Thirteen cycling events occurred, and all were successfully deployed. Table 8 shows each event with the cycling percentage, the maximum temperature during the event, and the maximum load reduction. The cycling rate was 55% for five of the events and 50% for the remaining eight events, and the communication level exceeded 90% for each event.
Idaho Power calculated the maximum potential capacity in 2022 to be 26.8 MW at the generation level. This estimate of the program capacity is based on the maximum per-unit reduction ever achieved at the generation level of 1.4 kilowatt (kW) per participant.
Customers receive a $5.00 incentive for each month of participation between June 15 and September 15, resulting in a total annual incentive potential of $20.00. The credits appear on their July through October bill statements.

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

Event Date	Event Time	Cycling Rate	High Temperature	Maximum Load Reduction (MW)
July 7	6–9 p.m.	55%	94°F	11.4
July 24	4–8 p.m.	50%	101°F	16.7
July 28	4–8 p.m.	50%	103°F	18.1
July 29	4–8 p.m.	50%	104°F	20.1
August 1	6–9 p.m.	55%	102°F	18.7
August 8	5–8 p.m.	55%	102°F	16.4
August 9	5–8 p.m.	55%	98°F	16.8
August 17	6–10 p.m.	50%	102°F	14.5
August 31	6–10 p.m.	50%	105°F	14.9
September 1	5–8 p.m.	55%	97°F	15.7

Event Date	Event Time	Cycling Rate	High Temperature	Maximum Load Reduction (MW)
September 2	5–9 p.m.	50%	100°F	15.5
September 6	5–9 p.m.	50%	100°F	12.9
September 7	5–9 p.m.	50%	104°F	17.1

Throughout 2022, Idaho Power representatives continued site visits to check switches and equipment to improve communication levels. COVID-19-related safety protocols remained in place, including calling each customer before the visit to explain the process and safety measures and not visiting any site where the customer was uncomfortable with the process. The company will continue work to ensure devices associated with the program are communicating on an ongoing basis.

During the site visits, Idaho Power representatives placed informational stickers on devices that included a safety warning regarding risk of electric shock if the sealed demand response unit were opened, and a toll-free phone number customers could call with questions.

Marketing Activities

Idaho Power actively marketed the A/C Cool Credit program in 2022.

The company mailed information to existing participants before the start of the 2022 season to describe the program specifics and parameter changes—specifically the extended program season and the additional month to receive an additional $5.00 incentive. A postcard was also sent to participants reminding them of the upcoming season.

In the spring and throughout the summer, the company used postcards, phone calls, direct-mail letters, and home visits (leaving door hangers for those not home) to recruit customers moving into houses with existing switches and previous program participants who moved into new homes without switches. The company also sent recruitment letters to select customers who are homeowners and have not participated previously. In total, 81,391 direct-mail letters were sent. In addition to the letters, follow-up emails (to customers with emails on file) were sent a few weeks after the letter, reminding customers to sign up.

The program was promoted on a KTVB channel 7 segment, where an Idaho Power representative talked with the show host about the benefits of the program. Idaho Power's summer *Energy Efficiency Guide* featured a promotional blurb on the program, encouraging customers to visit the website and sign up.

Participating customers received a thank you and a credit reminder message on their summer bills, and Idaho Power concluded the season by sending a thank-you postcard to participants.

Cost-Effectiveness

Idaho Power determines cost-effectiveness for its demand response program using the approved method for valuing demand response under IPUC Order No. 35336 and approved by the OPUC on February 8, 2022, in Docket No. ADV 1355. Using financial and alternate resource cost assumptions from the *2021 Integrated Resource Plan*, the defined cost-effective threshold for operating Idaho Power's three demand response programs for the maximum allowable 60 hours is $82.91 per kW under the current program parameters.

The A/C Cool Credit program was dispatched for 13 events (totaling 47 event hours) and achieved a maximum demand reduction of 20.1 MW with a maximum potential capacity of 26.8 MW. The total expense for 2022 was $829,771 and would have remained the same if the program had been fully used for 60 hours because there are no additional variable incentives paid for events called beyond the three minimum required events. Using the total cost and the maximum potential capacity results in a program cost of $30.99 per kW. This is less than the threshold, and therefore, the program was cost-effective.

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

Evaluations

In 2021, Idaho Power contracted a third party to conduct an impact evaluation of the A/C Cool Credit Program. Following are the recommendations of the evaluations and Idaho Power's response to each.

Utilize a mixed model or regression model to estimate saving for the programs. Idaho Power has adopted the mixed-model approach for calculating load reduction for the program.

Utilize proxy event days to estimate bias and error when determining which model to select for estimating baseline usage. Idaho Power has adopted this approach for calculating load reduction for the program.

The evaluators recommend calling DR events on days with the highest forecasted Cooling Degree Days to maximize program demand reductions. Idaho Power has updated its program curtailment calculator to incorporate forecasted hourly Cooling Degree Days. This calculator provides system operators an estimate of the demand reduction that can be attained by calling an A/C Cool Credit event that day. However, while potential curtailment is an important metric, the decision to call an event is ultimately based on a wide variety of factors relating to the overall electrical system needs, and not just for the goal of maximizing program load reductions.

In 2022, Idaho Power performed an internal review to evaluate the demand reduction over the course of the 13 event days. The demand reduction was calculated by comparing the actual

average load for participating customers on each of the 13 event days to a corresponding baseline. The baseline is calculated using a mixed model approach, in which five possible statistical baseline models are tested for each household and the best fit model is selected based on performance across a set of proxy event days.

The fourth event on July 29 achieved the highest peak demand reduction of 1.05 kW per participant for a total peak reduction of 20.1 MW with line losses.

For 2022, the maximum potential capacity of the program was calculated to be 26.8 MW. This is based on 1.4 kW per participant which the company has achieved in the past with 65% cycling on a very hot day.

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

2023 Plans

Idaho Power will continue to actively market the A/C Cool Credit program to solicit new participants with a strong focus on recruiting customers that reside at a residence that currently has a switch that was installed for a previous occupant.

The company will explore opportunities to expand the A/C Cool Credit program by evaluating the potential for a Bring-Your-Own-Thermostat program option.

Easy Savings: Low-Income Energy Efficiency Education

	2022	2021
Participation and Savings		
Participants (coupons)	267	0
Energy Savings (kWh)	22,755	0
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	$152,718	$145,827
Total Program Costs—All Sources	$152,718	$145,827
Program Levelized Costs		
Utility Levelized Cost ($/kWh)	$1.448	n/a
Total Resource Levelized Cost ($/kWh)	$1.448	n/a
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 provided $125,000 to Community Action Partnership (CAP) agencies in its service area annually, on a prorated basis. These orders specified that Idaho Power provide educational information to Idaho customers who heat their homes with electricity.

From 2009 to 2017, using CAP agency personnel, the program distributed energy-saving kits (ESK) and corresponding educational materials to participants in the Low-Income Home Energy Assistance Program (LIHEAP) who heat their homes with electricity. In 2017, with input from a planning committee consisting of representatives from the Community Action Partner Association of Idaho (CAPAI), CAP agencies, the IPUC, and Idaho Power, this program discontinued kit distribution and offered a pilot incentive: a coupon for a free electric HVAC tune-up and one-on-one education with the goal of helping low-income customers learn ways to reduce their energy costs and have a maintained HVAC system.

To provide services for the program, regional HVAC company owners sign contractor guidelines and acknowledge the two-fold goal of the program—customer education and equipment tune-up. During the customer visit, HVAC contractors perform the tune-up and teach residents how to change furnace filters. They also explain how regular maintenance improves overall performance and answer questions about the specific heating equipment and ways to save

energy. The contractor leaves behind information for a customer satisfaction survey that can be completed online or mailed to CAPAI. Respondents are entered into a drawing for a gift card provided by CAPAI.

Program Activities

The planning committee and contractors met virtually throughout 2021 to plan 2022 program updates. The group agreed to the following improvements that were implemented in 2022:

- Eligibility was expanded beyond only LIHEAP recipients to include all income-qualified Idaho Power customers with electric heat regardless of whether they had received LIHEAP assistance.
- In addition to providing HVAC system tune-ups and educating customers on their systems, HVAC contractors provided new energy saving items during their visits. By year end, the program accomplished the following:
    - Provided either a box of disposable furnace filters or individual washable furnace filters to 247 customers after showing them how to change or wash the filters and explaining the importance of clean furnace filters to HVAC operation
    - Installed 147 dusk-to-dawn LED bulbs in porch light fixtures
    - Wrapped pipes of 56 water heaters
    - Left 150 packages of dryer balls
    - Unwrapped and tested 175 air fryers with customer's commitment to use them at least twice per week in place of their ovens
    - Unwrapped and tested 41 counter-top microwaves with customers while including explanations of energy savings potential

Idaho Power sent coupons specific to each regional CAP agency for the 2022 program at the end of 2021. The company also sent helpful energy efficiency education materials for regional HVAC contractors to share with customers. A total of 267 coupons were redeemed by the end of the 2022 program year.

Marketing Activities

Prior to 2022, Idaho Power sent a direct-mail postcard (Figure 8) to Idaho residential customers who previously received energy assistance to encourage them to take advantage of the program in 2022. Additionally, Facebook posts about the program were used during summer 2022 to promote coupon redemption.

The Easy Savings program is included under Savings for Your Home on the Idaho Power website in the Income-Qualified Customers section.

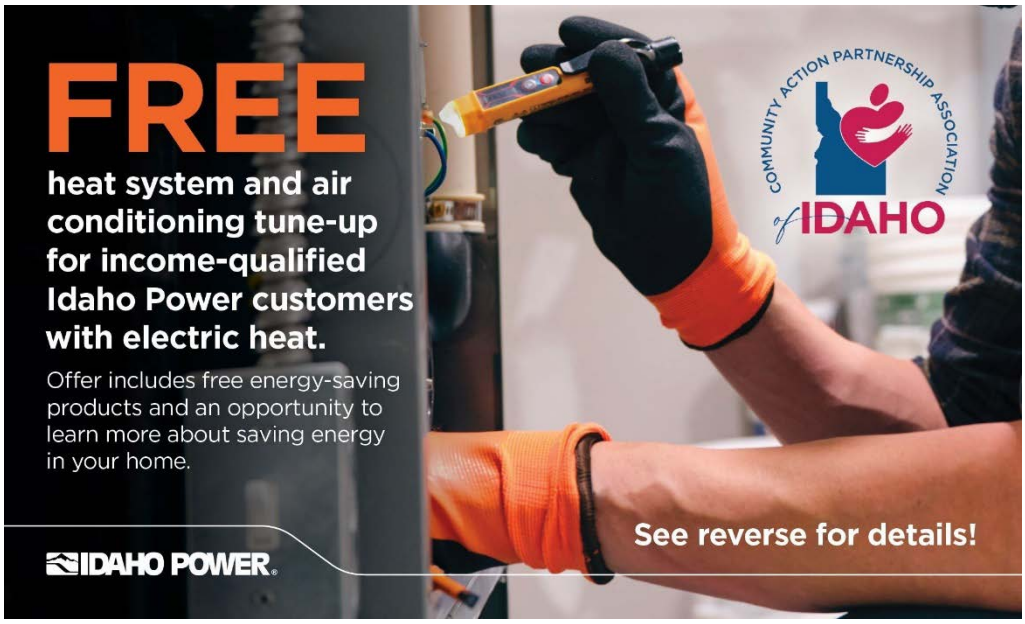


Figure 8. Direct-mail postcard to Idaho residential customers for Easy Savings

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.

For the HVAC tune up coupons redeemed in 2022, the program claimed approximately 61 kWh. For the pipes wrapped, the program claimed approximately 75 kWh. The savings are a weighted average of single family, multifamily, and manufactured home types from the 2022 energy efficiency potential study. The savings are weighted using the 2022 housing types from both the WAQC and Weatherization Solutions for Eligible Customers programs. The RTF provides deemed savings for direct-install LED lightbulbs. For the 800-lumen dusk-to-dawn exterior lights, the program claimed approximately 15 kWh.

2023 Plans

Each agency's portion of the annual $125,000 payment will be made available in early 2023, once committee meetings have been completed and contractor guidelines are signed. Agencies will begin 2023 with their portion of this payment added to any unspent portion of the previous year's payments. One agency overspent their portion of the annual Easy Savings funding in 2022. They plan to use 2023 Idaho Power funding to pay contractors for work done in 2022 for the program. This agency also received funding transferred from another CAP agency's unused portion of their Easy Savings allotment for 2022.

Participating contractors will continue to discuss the importance of HVAC maintenance and incorporate education about saving energy with coupon recipients. They will answer questions about other ways to save energy in their homes.

Educational Distributions

	2022	2021
Participation and Savings		
Participants (kits/giveaways)	49,136	47,027
Energy Savings (kWh)	3,741,954	2,930,280
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	$1,061,898	$433,963
Oregon Energy Efficiency Rider	$24,866	$15,826
Idaho Power Funds	$49	$0
Total Program Costs—All Sources	$1,086,813	$449,790
Program Levelized Costs		
Utility Levelized Cost ($/kWh)	$0.037	$0.019
Total Resource Levelized Cost ($/kWh)	$0.037	$0.019
Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	1.31	2.39
Total Resource Benefit/Cost Ratio	1.62	3.10

Description

Designated as a specific program in 2015, the Educational Distributions effort is administered through the REEEI and seeks to use low- and no-cost channels to deliver energy efficiency items with energy savings directly to customers. The goal for these distributions is to drive behavioral 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 behavioral 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.

Nightlights as Giveaways

Nightlights are a popular giveaway item with Idaho Power customers and provide another opportunity to share information about energy efficient LED technology and safe,

energy-efficient ways to provide nighttime lighting. Energy advisors are encouraged to use nightlights as a bridge to these discussions.

Student Energy Efficiency Kit Program

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

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

- Three LED lightbulbs
- A high-efficiency showerhead
- An LED nightlight
- A furnace filter alarm
- A digital thermometer for measuring water and refrigerator/freezer temperatures
- A water flow-rate test bag
- A shower timer
- Sticker and magnet pack (containing reminders about energy efficiency)

Figure 9. Student Energy Efficiency Kit

At the end 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, two nightlights, a greeting card, and a small flipbook 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.

Figure 10. Welcome Kit

Program Activities

Nightlights as Giveaways

Idaho Power continued to distribute LED nightlights to engage customers in discussions around energy-efficient behavior changes and home upgrades.

In-person events rebounded slowly but steadily throughout the year, affording Idaho Power staff and energy advisors the opportunity to distribute 5,920 nightlights along with an educational message. Nightlights were distributed to business and community leaders at civic

events, aging customers at senior centers, secondary students at career fairs and during presentations, as well as many other groups at presentations and events throughout Idaho Power's service area.

Figure 11. Nightlights as giveaways

Student Energy Efficiency Kit Program

During the 2021–2022 school year, the vendor was responsible for SEEK recruiting activities. Idaho Power EOEAs continued to promote the program during their school visits and interactions with fourth- to sixth-grade teachers. The new curriculum, focusing on digital engagement, was well received and SEEK enrollments were strong. The vendor delivered a record 12,595 kits to 338 classrooms in 174 schools within Idaho Power's service area. This resulted in 2,349 MWh of savings.

Welcome Kits

Idaho Power continued to contract with a third-party vendor to distribute energy efficiency kits to the company's first-time customers. In 2022, after collaboration with EEAG, the kit contents were adjusted to improve cost-effectiveness. Rather than two 800-lumen lightbulbs,

two 1,600-lumen LED lightbulbs and one nightlight, each recipient received four 1,100-lumen lightbulbs and two nightlights.

The company sent nearly 31,000 Welcome Kits to customers in 2022—down slightly from the quantity delivered in the previous two years. Idaho Power continues to receive positive customer feedback indicating these kits are well-received.

Marketing Activities

Nightlights as Giveaways

Nightlights are not marketed as a separate measure, but energy advisors used them to facilitate energy efficiency conversations during customer visits. Nightlights have also become an outstanding way to engage customers at events and presentations as energy advisors report they are a sought-after item.

Student Energy Efficiency Kit Program

During the 2021–2022 school year, the vendor staff handled most of the marketing and recruitment of teachers via email and phone calls to the eligible schools. Idaho Power EOEAs continued to promote the program through the *Community Education Guide* and in conversations with teachers throughout the year.

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. The kits are, however, used to cross-market other programs through the inclusion of a small flipbook containing energy-saving tips and information about Idaho Power's energy efficiency programs.

Cost-Effectiveness

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

The UCT and TRC for the program are 1.31 and 1.62 respectively.

Nightlights as Giveaways

Idaho Power used the third-party evaluator's calculated savings of 12 kWh per nightlight as explained in the Welcome Kit cost-effectiveness section.

Student Energy Efficiency Kit Program

The cost-effectiveness analysis for the SEEK offering was based on the savings reported by the kit provider during the 2021–2022 school year. The kit provider 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 63%. The survey gathers information on the efficiency level of the existing measure within the home and which measure was installed. The energy savings will vary for each household based on the measures offered within the kit, the number of items installed, and the existing measure that was replaced. Based on the feedback received from the 2021–2022 school year, the savings for each kit was approximately 187 kWh annually per household on average, and the program saved 2,349,312 kWh annually. A copy of the report is included in *Supplement 2: Evaluation*.

Welcome Kits

For the four 1100-lumen LED lightbulbs included in the kit, Idaho Power used the RTF's giveaway deemed savings value of 4.79 kWh per lightbulb. For the nightlight, Idaho Power used the third-party evaluator's calculated savings of 12 kWh per nightlight, which was identified using survey data as part of a 2020 evaluation. The annual savings for each kit is 43.16 kWh. With the implementation of *Energy Independence and Security Act of 2007* (EISA) after June 30, 2023, Idaho Power will no longer claim savings for the screw-in LEDS.

In 2022, the Welcome Kits were not fully cost-effective due to additional erosion of lighting savings. After consulting the EEAG in 2021, the decision was made to keep this educational program, but to only include the cost-effective portion associated with those energy savings in the Educational Distribution program; the remainder of the kit costs are included in the REEEI budget (see Other Programs and Activities section).

2023 Plans

Nightlights as Giveaways

Nightlights will continue to be the primary opportunity to garner savings in conjunction with educational discussions and customer conversations. Field staff will look for opportunities to discuss enhancements in LED technology (dusk-to-dawn sensors, etc.) and savings, encourage in-home adoption of LED lighting, and promote the use of LED nightlights as an energy efficient, safe nighttime lighting option.

Student Energy Efficiency Kit Program

Idaho Power will continue to offer the SEEK program. The company will work with the vendor to implement process and curriculum enhancements based on suggestions received from teachers, students, and parents.

The company will continue to leverage the positive relationships Idaho Power's EOEAs have within the schools to maintain program participation levels.

Welcome Kits

Idaho Power will continue to offer Welcome Kits to first-time customers. For the first half of 2023, the kit configuration will continue to take advantage of the RTF savings associated with

1,100-lumen lightbulbs. On June 30, in conjunction with the elimination of lighting savings due to EISA standards, the kit will be reconfigured—rather than four 1,100-lumen lightbulbs, each kit will contain two 800-lumen lightbulbs. The Welcome Kits will cross-promote other energy efficiency programs and educate and encourage new customers to adopt energy-efficient behaviors upon moving into their new homes. The Educational Distributions program will continue to count the savings and pay for the cost-effective energy-saving portion of each kit, while the remaining costs associated with the kits will be included in Idaho Power's REEEI efforts.

Other Educational Distributions

Idaho Power will continue to look for opportunities to engage customers with new technologies that stress the importance of energy-efficient behaviors at home. Idaho Power will continue with its efforts to identify a marketplace platform that will engage and educate customers while promoting efficient technologies that may not fold neatly into other program offerings.

Energy Efficient Lighting

	2022	2021*
Participation and Savings		
Participants (lightbulbs)	370,739	0
Energy Savings (kWh)	1,728,352	0
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	$505,430	$41,438
Oregon Energy Efficiency Rider	$29,475	$2,194
Idaho Power Funds	$76	0
Total Program Costs—All Sources	$534,982	$43,631
Program Levelized Costs		
Utility Levelized Cost ($/kWh)	$0.030	n/a
Total Resource Levelized Cost ($/kWh)	$0.040	n/a
Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	1.68	n/a
Total Resource Benefit/Cost Ratio	1.52	n/a

* Expenses incurred in 2021 in preparation for the relaunch of the program in 2022.

Description

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 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 the program contractor 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, the program contractor is responsible for contracting with retailers and manufacturers, providing marketing materials at the point of purchase, and supporting and training retailers.

Program Activities

After the BPA-sponsored Simple Steps program ended in September 2020, Idaho Power pursued the start of its own lighting buydown program. Shelf studies showed that specific retail channels in the region were still selling inefficient lighting products. The new lighting buydown program, launched in late December 2021, provides ENERGY STAR LED lightbulb and light fixture incentives at grocery, dollar, mass merchandise, and small hardware stores, and provides ENERGY STAR LED light fixture incentives at membership club and do-it-yourself hardware stores. By following this model, Idaho Power was able to achieve higher savings by focusing on sales at retailers that traditionally offered more inefficient lighting products, helping to ensure the program remained cost-effective.

In 2022, LED lightbulbs comprised 74% of the program's sales for the year, a significant decrease from the 93% of lightbulb sales in 2020. LED fixtures comprised approximately 26% of overall program sales.

In 2022, Idaho Power worked with 11 participating retailers, representing 100 individual store locations in its service area. Of those participating retailers, 66% of sales were from grocery, dollar, and mass-merchandise stores, 23% from do-it-yourself hardware stores, 9% from small hardware stores, and 2% from membership clubs. Many rural sales came from these smaller retailers that serve hard-to-reach customers. It was important to include several store types across Idaho Power's service area to ensure all customers have access to efficient lighting options.

Figure 12. Lighting shelf store display

Marketing Activities

In 2022, the program contractor promoted discounts with special product placement and signs. Monthly visits to check stock and ensure point-of-purchase signs were placed on qualifying products were conducted. In addition, a Facebook and Twitter post went out in March using updated graphics. A lighting tip was also included in the August *Home Energy Report*.

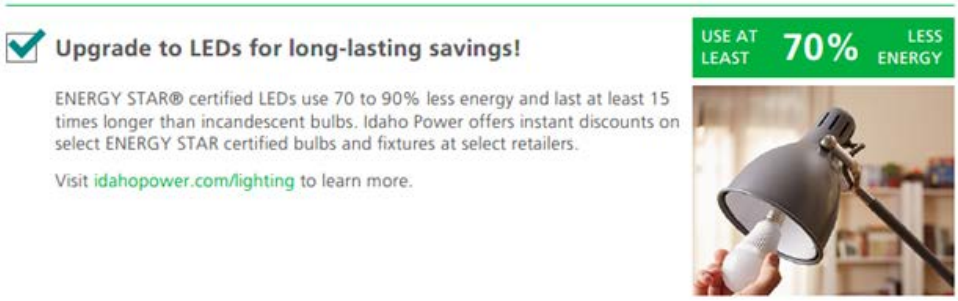


Figure 13. Home Energy Report tip

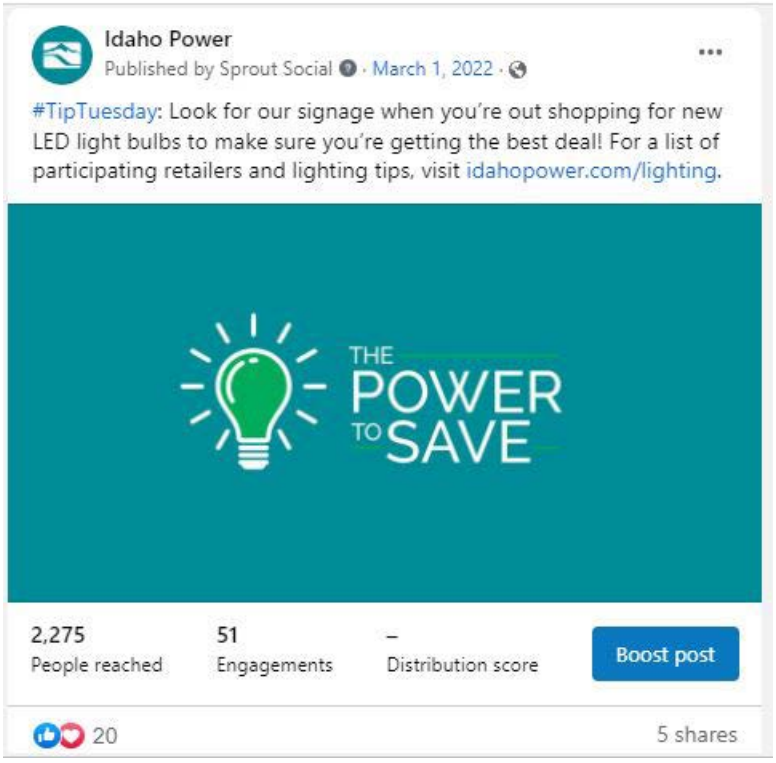


Figure 14. Lighting post

The company continued to host an Energy Efficient Lighting program website and made available a *Change a Light* program brochure. The brochure is distributed at community events to help discuss energy-efficient lighting with customers and to help them select the right lightbulb for their needs.

Cost-Effectiveness

The UCT and TRC ratios for the program are 1.68 and 1.52, respectively. In September 2020, the RTF updated the savings assumptions for residential lighting. At the time of the update, the US Department of Energy (DOE) had issued a Final Rule that essentially circumvented the previous 45 lumen-per-watt backstop for general service incandescent lamps. As a result, the RTF workbook version 9.0 (and subsequent updates) assumed no federal standards were in place and the analysis was based on the NEEA's 2019 lighting market shelf study. Due to the lower savings in the workbook, the BPA decided not to resume the Simple Steps program.

As described at the November 2020 EEAG meeting, Idaho Power reached out to the Energy Trust of Oregon (ETO) to learn more about the retail lighting program the organization was planning to launch to replace the Simple Steps program. Based on its 2019 lighting market shelf study, NEEA found that 100% of lightbulbs sold in membership clubs were LEDs while only 46% of the lightbulbs sold in grocery, dollar, and mass-merchandise stores were LED. RTF blended this information to determine the current market baseline for the region. ETO decided to focus their new retail lighting program on the grocery, dollar, mass-merchandise stores retail channel because of the higher probability of selling inefficient lightbulbs and the potential to move the market further.

Idaho Power received ETO's modified RTF lighting workbook version 9.3 in 2021. By updating the market baseline, the annual savings for general purpose lightbulbs in the 250–1,049 lumen range increased from 0.91 kwh to 4.50 kWh. The annual savings for reflector lightbulbs in the 250–1,049 lumen range increased from 1.15 kWh to 4.65 kWh. Idaho Power worked with the third-party implementer to design a retail lighting program targeted to grocery, dollar, mass-merchandise, and small hardware stores. Additionally, LED fixtures were included in the program and offered across all retail channels.

In January 2021, Executive Order 13990 instructed all agencies to review existing regulations issued or adopted between January 2017 and January 2021. The DOE re-evaluated its prior determination and proposed codifying the 45 lumen-per-watt backstop requirement. In April 2022, the DOE issued a Final Rule that reinstituted EISA and the expanded general service lamp definition and the 45 lumen-per-watt backstop effective July 2022. The DOE enacted a progressive enforcement policy with different ramp up times for both manufacturers/importers and retailers/distributors. For the distribution and sale of non-compliant lightbulbs, warnings would be issued from January 1 to February 28, 2023. Reduced penalties would be issued between March 1 to June 30, 2023, with full enforcement and penalties issued as of July 1, 2023.

The RTF reviewed and updated the savings assumptions for residential lighting in September 2022. Per the Northwest Power and Conservation Council (NWPCC) policy, the RTF

modeled savings based on the current effective standards. With the exception of some compact fluorescent lightbulbs, there are not many "minimally compliant" options available. Based on the market data, it was determined the baseline would be comprised almost entirely of LEDs. As a result, the RTF removed the retail and by-request delivery channels. Idaho Power will begin using the newest RTF workbook version 11.0 after June 30, 2023.

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

2023 Plans

Idaho Power, with input and support from EEAG, decided to continue offering the lighting buydown program through June 30, 2023. After that date, the DOE will begin enforcing federal EISA lighting standards with financial penalties to those retailers that continue to sell inefficient lightbulbs that do not meet the new 45 lumen-per-watt requirement. It is assumed that after that date, most retailers will no longer sell inefficient lightbulbs, negating the need for a program to influence lighting purchasing decisions. Before the July 1 enforcement date, it is assumed that many retailers will have inefficient inventory to offload, thus making an incentive to purchase efficient lightbulbs more valuable. Idaho Power will perform periodic reviews of participating retailers across its service area to validate if inefficient lightbulbs are still sold. If it is determined that a retailer is no longer offering inefficient lightbulbs, the retailer will be removed from the program.

Energy House Calls

	2022	2021
Participation and Savings		
Participants (homes)	52	11
Energy Savings (kWh)	54,516	14,985
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	$36,734	$17,375
Oregon Energy Efficiency Rider	$1,378	$882
Idaho Power Funds	$51	$0
Total Program Costs—All Sources	$38,163	$18,257
Program Levelized Costs		
Utility Levelized Cost ($/kWh)	$0.062	$0.105
Total Resource Levelized Cost ($/kWh)	$0.062	$0.105
Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	0.70	0.43
Total Resource Benefit/Cost Ratio	0.77	0.50

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 BPA; installing LED lightbulbs; testing the temperature set on the water heater; installing water heater pipe covers when applicable; installing one bathroom faucet aerator, one kitchen faucet aerator; and leaving two replacement furnace filters with installation instructions, as well as 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 exterior, moderate- and high-use areas of the home; to replace only

incandescent and halogen lightbulbs; and to install bathroom aerators and showerheads only if the upgrade can be performed without damaging 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

Energy House Calls is one of Idaho Power's longest-running energy efficiency programs, available to electrically heated manufactured homes only and limited to one visit per home for the life of the program. With a limited number of available homes that meet the eligibility criteria, the program has experienced a steady and sustained decline in participation indicating market saturation. Due to the program becoming non-cost-effective, with the support of EEAG, the program was closed to new participants as of June 30, 2022.

Contractors were given until December 31, 2022, to service all customers that enrolled prior to the June 30 closing, including any remaining from the backlog of projects that had accumulated while the program in-home work was temporarily suspended due to COVID-19 in 2020 and 2021. While not everyone from the backlog of customers decided to move forward with their participation in the program, contractors contacted every customer to ensure they were informed about the program closing and had ample opportunity to have work done before the December 31 deadline.

In 2022, 52 homes received products and/or services through the program, resulting in 54,516 kWh savings. Of the participating homes, 43% were in Idaho Power's South–East Region, 19% were in the Capital Region, and 38% were in the Canyon–West Region.

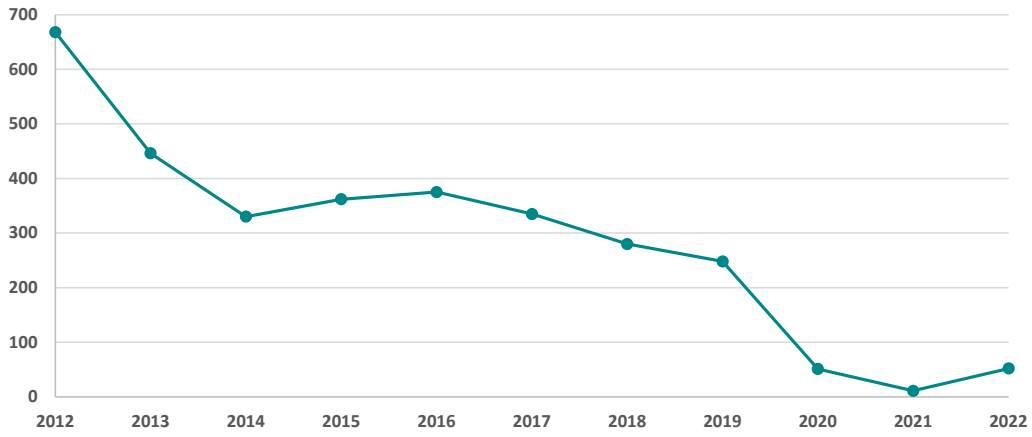


Figure 15. Participation in the Energy House Calls program, 2012–2022

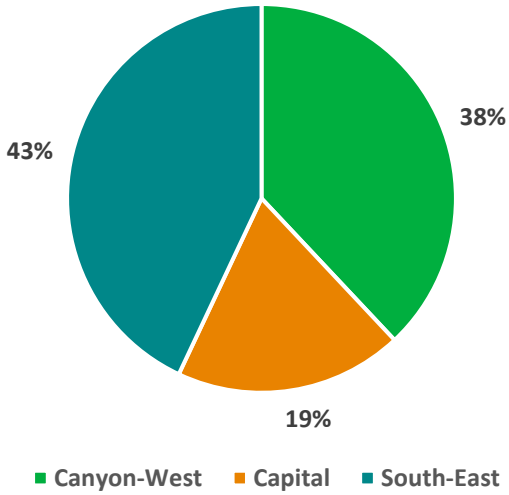


Figure 16. Participation in the Energy House Calls program, by region

Duct-Sealing

Some customers who applied for the Energy House Calls program could not be served because their ducts did not require duct-sealing or could not be sealed for various reasons. These jobs were billed as a test-only job. On some homes, it was either too difficult to seal the ducts, or the initial duct blaster test identified the depressurization to be less than 150 cubic feet per minute (cfm) making duct-sealing unnecessary. Additionally, if after sealing the duct work the contractor was unable to reduce leakage by 50%, the contractor would 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. In 2022, because Idaho Power offered direct-install measures in addition to the duct-sealing component, all homes were reported. While some homes were not 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 52 homes that participated in 2022, six 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 was necessary, it was billed as a test and seal. For a multi-section home with an x-over duct system (one that transfers heated or cooled air from one side to the other) that needed replacing in addition to the duct-sealing, it was charged as an x-over. When a home required that the existing belly-return system be decommissioned and a new return installed along with the duct-sealing, it was billed as a complex system. A complex system that also requires the installation of a new x-over as well as duct-sealing is billed as a complex system and x-over job. Figure 17 shows the job type totals (test and seal versus x-over) for the 2022 Energy House Calls program.

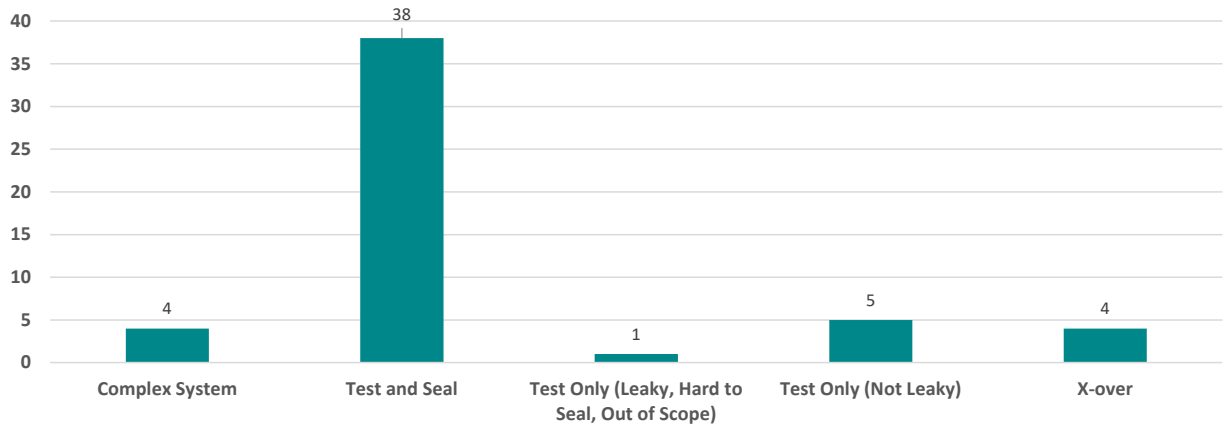


Figure 17. Energy House Calls participation by job type

Direct-Install Measures

In 2022, contractors installed 265 LED lightbulbs, no showerheads, one bathroom aerator, three kitchen aerators, and pipe wrap on 21 water heater pipes.

Marketing Activities

Because the program became non-cost-effective and was ending on June 30, 2022, all marketing efforts were suspended for 2022. Idaho Power added a disclaimer on the Energy House Calls program website once the program ended advising that the program had ended but that there were other assistance programs available for duct-sealing through the WAQC or Weatherization Solutions for Eligible Customers programs, or duct-sealing measures included in the Heating & Cooling Efficiency Program (H&CE Program).

Cost-Effectiveness

The UCT and TRC ratios for the program are 0.70 and 0.77, respectively.

The RTF is the source of all savings assumptions for the program. Savings for the LED lightbulbs increased from 5.65 kWh to 12.12 kWh based on updated lighting assumptions. In 2021, the RTF reviewed aerator savings. Because of the uncertainty around the relationship between hot water savings and the savings associated with aerators, the RTF deactivated the measure. Therefore, there are no savings associated with the aerators in 2022.

In 2022, Idaho Power used the same RTF savings for duct-sealing in manufactured homes as were used in 2021. The savings were approximately 1,081 kWh per home. In December 2021, the RTF reviewed and updated the savings associated with manufactured home duct-sealing based on program evaluations around the region. The updated manufactured duct-sealing savings is approximately 888 kWh per home. Due to the timing of the adoption of the new workbook, Idaho Power did not use the updated workbook to calculate savings for the program in 2022. However, the new workbook was used to analyze the future cost-effectiveness for the program. Due to the declining savings of both the duct-sealing and direct-install items as well as

the increasing costs associated with offering a free service for program participants, it was determined the program would continue to be non-cost-effective in its current format. With the support of EEAG, the program was closed to new participants as of June 30, 2022. The updated manufactured home duct-sealing savings of 888 kWh per home will be used for future participants of the Heating & Cooling Efficiency Program (H&CE Program).

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

2023 Plans

With the Energy House Calls program ending, eligibility for the duct-sealing measure incentive within the H&CE Program has expanded to include customers that reside in an all-electric manufactured home. Additionally, both the WAQC and Weatherization Solutions for Eligible Customers programs include duct-sealing as approved measures when needed.

Heating & Cooling Efficiency Program

		2022	2021
Participation and Savings			
	Participants (projects)	1,080	1,048
	Energy Savings (kWh)	1,310,260	1,365,825
	Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source			
	Idaho Energy Efficiency Rider	$636,597	$600,636
	Oregon Energy Efficiency Rider	$28,960	$34,522
	Idaho Power Funds	$459	$25
	Total Program Costs—All Sources	$666,016	$635,182
Program Levelized Costs			
	Utility Levelized Cost ($/kWh)	$0.050	$0.044
	Total Resource Levelized Cost ($/kWh)	$0.180	$0.155
Benefit/Cost Ratios*			
	Utility Benefit/Cost Ratio	0.98	1.14
	Total Resource Benefit/Cost Ratio	0.30	0.36

*2021 and 2022 cost-effectiveness ratios include evaluation. If evaluation expenses were removed from the program's cost-effectiveness, the 2021 UCT and TRC would be 1.19 and 0.36, respectively, and the 2022 UCT and TRC would be 1.00 and 0.30, respectively.

Description

Initiated in 2007, the objective of the H&CE Program is to provide customers with energy-efficient options for space heating and cooling and water heating. The program provides incentives to residential customers, builders, landlords, 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 and for new homes are summarized in tables 9 and 10, respectively.
See idahopower.com/heatingcooling for a complete description of the program.

Table 9. Measures, conditions, and incentives—existing homes

Existing Equipment Requirement	New Equipment or Services	Customer Incentive	Contractor Stipend	New Equipment or Services Requirements[1]
Ducted air-source heat pump	Ducted air-source heat pump	$ 250	$ 50	Minimum efficiency 8.5 HSPF
Oil or propane heating system	Ducted air-source heat pump	400	50	Minimum efficiency 8.5 HSPF Natural gas not available
Electric (forced-air or zonal) heating system)	Ducted air-source heat pump	800	50	Minimum efficiency 8.5 HSPF
Ducted air-source heat pump	Ducted open-loop water-source heat pump	500	50	Minimum efficiency 3.5 COP
Electric (forced-air or zonal), oil, or propane heating system	Ducted open-loop water-source heat pump	1,000	50	Minimum efficiency 3.5 COP Natural gas not available when existing equipment is oil or propane heating system
Air-source heat pump	Ducted ground-source heat pump[2]	1,000		Minimum efficiency 3.5 COP
Electric zonal system, electric furnace, or an oil or propane furnace	Ducted ground-source heat pump[2]	3,000		Natural gas not available when existing equipment is oil or propane heating system Minimum efficiency 3.5 COP
n/a	Central A/C[2]	50		Minimum 15 SEER but <17; minimum 12 EER
n/a	Central A/C[2]	150		Minimum 17 SEER; minimum 13 EER
Zonal electric heating system	Ductless air-source heat pump	750		Minimum one indoor unit in main living area
Zonal electric heating system	Ductless air-source heat pump	750		Minimum one indoor unit in main living area
Electric forced-air heating system or heat pump	Duct-sealing services (single family or manufactured home[2])	350		
Permanent split capacitor air handler motor	Electronically commutated motor	50	150[3]	Oil, propane or natural gas forced-air heat, electric forced-air heat, or heat pump
n/a	Evaporative cooler	150		2,500 CFM minimum airflow
Electric storage water heater	Heat pump water heater	300		Tank size less than or equal to 55 gallons
Electric heating system	Smart thermostat	75		Internet connected
Zonal or central A/C or heat pump	Whole-house fan	200		2,000 CFM minimum airflow

[1]See idahopower.com/heatingcooling for full requirements
[2]Idaho customers only
[3]Contractor incentive

HSPF = Heating Seasonal Performance Factor
COP = Coefficient of Performance
SEER = Seasonal Energy Efficiency Ratio
EER = Energy Efficiency Ratio

Table 10. Measures, conditions, and incentives—new homes

New Equipment	Customer Incentive	Contractor Stipend	Requirements
Ducted air-source heat pump	$ 400	$ 50	Minimum efficiency 8.5 HSPF; natural gas not available
Ducted open-loop water-source heat pump	1,000	50	Minimum efficiency 3.5 COP; natural gas not available
Ducted ground-source heat pump[1]	3,000		Minimum efficiency 3.5 COP; natural gas not available
Central A/C[1]	50		Minimum 15 SEER but <17; minimum 12 EER
Central A/C[1]	150		Minimum 17 SEER; minimum 13 EER

[1]Idaho customers only

Idaho Power requires licensed contractors to perform the installation services related to these measures, except evaporative coolers, heat pump water heaters, and smart thermostats. To qualify for the ducted air-source heat pump (ASHP), ducted open-loop water source heat pump, ductless ASHP, and duct-sealing incentives, 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.

A third-party contractor reviews and submits incentive applications for payment using a program database portal developed by Idaho Power. The third-party contractor also provides technical and program support to customers and their contractors and performs on-site and off-site verifications.

Program Activities

Program performance is substantially dependent on the contractors' abilities to promote and leverage the heat pump measures offered. Idaho Power developed participating contractors currently in the program while adding three new contractors in 2022. The program specialist frequently engaged with contractors to discuss the program and provided six on-site training sessions with technical and market information.

In 2020, Idaho Power conducted an exercise described as journey mapping: a team of employees met periodically for three months to develop improvements to the program that would improve the customer experience when participating in the program. Recommendations included creating new layouts for the program's 10 online PDF application forms. Idaho Power updated one of the 10 forms in 2021 and completed updates to the remaining nine forms in 2022.

Idaho Power began offering two new measures through the program on July 1, 2022. The measures provided a cash incentive to Idaho customers who installed a central A/C or a ground-source heat pump. The incentives apply to both existing homes and new construction.

During the development stage of these measures, the company provided updates and requested input from EEAG at quarterly meetings. EEAG's feedback regarding these measures was positive.

The number of H&CE Program incentives paid in 2022 are listed in Table 11.

Table 11. Quantity of H&CE Program incentives in 2022

Incentive Measure	Project Quantity
Ducted Air-Source Heat Pump	181
Open Loop Water-Source Heat Pump	3
Ductless Heat Pump	243
Evaporative Cooler	14
Whole-House Fan	113
Electronically Commutated Motor	28
Duct-Sealing	2
Smart Thermostat	449
Heat Pump Water Heater	26
Central A/C	19
Ground-Source Heat Pump	2

Marketing Activities

Idaho Power used multiple marketing tactics for its H&CE Program promotion in 2022.

Idaho Power sent two program-related postcards to a targeted customer group determined to use electric heat: 8,088 customers received postcards in February and September. The company mailed a bill insert to 306,888 residential customers in April and 298,861 residential customers in October.

In February, the company emailed information about the H&CE Program to approximately 180,938 residential customers. The promotion was opened by over 89,318 customers and received approximately 2,039 clicks to the H&CE Program website. Idaho Power also sent an email promotion in August to 209,830 residential customers; the email was opened by 107,549 customers and received 4,987 clicks to the web page.

In February and September, Idaho Power used an ad agency to send digital display ads to customers based on their internet browsing preferences. Using Google Analytics, the ad agency determined the ads resulted in 1,539,162 impressions and 17,535 clicks to the H&CE Program web page in February and 3,046,748 impressions and 2,319 clicks in September. (An impression is a count of every time the ad is seen; a single person who sees the ad 10 times counts as 10 impressions.)

A pop-up ad in the company's My Account platform—a portal where customers login to see their energy usage and bill information—was also used in February. Customers who logged into My Account saw a promotion for the H&CE Program pop up on their screens. A total of 77,646 customers were shown the pop-up and 2,052 clicked through to learn more.

Program information was also included in energy efficiency collateral mailed in the new customer Welcome Kits. The program was also featured on Idaho Power's website homepage in February.

The spring/summer edition of the *2022 Energy Efficiency Guide* distributed through local newspapers featured an article on whole house fans. The *Home Energy Report* listed heating and cooling tips on the back page throughout the year (see the HER Program section). The two new measures listed above, central A/C and ducted ground-source heat pump, were also added to the suite of program collateral.

Additionally, the program specialist continued to distribute flyers, called tech sheets, to interested customers and contractors. The eight different flyers are especially beneficial as sales tools for contractors, for use at trade shows, and as mailers to customers without internet access who seek program and individual cash incentive information.

Cost-Effectiveness

In 2022, the H&CE Program had a UCT of 0.98 and TRC of 0.30. In 2022, the program incurred evaluation expenses related to the impact and process evaluation that occurred in late 2021. If the amount incurred for the evaluation was removed from the program's cost-effectiveness, the UCT would be 1.00, while the TRC would be 0.30.

Overall, while participation increased slightly from 1,048 participants in 2021 to 1,080 participants in 2022, the total savings decreased by 55,565 kWh year over year. The decrease in overall savings was largely due to the lower participation in the electronically commutated motor (ECM) measure and the reduction in connected thermostat savings in response to the evaluation recommendation to not claim savings for ASHPs that claim additional commissioning, controls, and sizing (CCS) savings. Savings were also reduced for evaporative coolers in response to the evaluation recommendation to adjust the savings with a net-to-gross (NTG) factor of 44.4%. These reductions in savings were slightly offset by the increase in participation in the ductless heat pump (DHP) measure and the addition of two new measures in 2022, ground-source heat pumps and high-efficiency A/Cs.

The RTF is the source of most measure savings assumptions within the program. In general, most savings assumption did not change in 2022 over 2021 with the exception of a few measures in response to recommendations by the evaluators in the recent impact evaluation. More information regarding those recommendations and adjustment are described in the Evaluation section below. Some measures within the program do not pass the UCT; however,

these measures, with the exception of DHPs, would pass the UCT if administration costs were not included in the measure's cost-effectiveness. Most measures are not cost-effective from a TRC perspective. The program itself has a cost-effectiveness exception with the OPUC under UM 1710. Due to the changes to federal standards for ASHP, the program will be modified in 2023 to incorporate the updated savings assumptions, new measures, and recommendations from the 2021 evaluation.

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

Evaluations

In 2021, Idaho Power contracted with a third-party consultant to conduct impact and process evaluations for the 2020 program year of the H&CE Program in the Idaho and Oregon service area. The complete analysis report was published in the 2021 *Supplement 2: Evaluation*.

Below are the impact and process evaluation recommendations made by the evaluators followed by a description of how Idaho Power responded in 2022.

Applications/Processing

It was recommended Idaho Power: require customers to fill out application forms consistently for all projects; *review each application to ensure information requested on the application forms is provided and that it meets the requirements; improve methods when collecting information using the web and application forms; verify information customers provide on the whole-house fan application forms and ensure those forms are enforced.* Idaho Power requires customers to consistently provide information requested on the application forms, per the Terms and Conditions. Idaho Power cannot always control what customers input on the forms; follow-up and verification is performed only on the critical data. Idaho Power will continue reviewing all application forms for any missing or inaccurate information and obtain missing or inaccurate information from the customer or the installing contractor if used. Idaho Power will continue comparing all information provided to ensure it meets the measure requirements. Idaho Power routinely improves the Idaho Power program website and the application forms to promote optimal usability.

Savings Assumptions/Calculations

The evaluators recommended Idaho Power round up savings values to the nearest kWh for Regional Technical Forum (RTF) approved measures. Idaho Power has received conflicting recommendations from past evaluators to use RTF deemed savings values to two decimal places. Idaho Power has done so for all RTF-sourced deemed savings values. The company has decided not to apply this recommendation to maintain consistency across all programs.

It was recommended Idaho Power apply a 44.4% NTG to the claimed savings of the evaporative cooler incentive to account for displaced refrigerated air. The evaluators referenced a Technical

Reference Manual from Public Company of New Mexico 2015. They also recommend Idaho Power establish a Net to Gross specific to the Idaho Power service area. Idaho Power has applied the 44.44% NTG for the evaporative coolers that had an incentive in 2022. When the program is updated in 2023, the application will be updated to ask questions around the displaced refrigerated air in order for the company to calculate the actual NTG percentage for the offering.

The evaluators recommended Idaho Power continue to use the literature review workpaper provided by the IDL when claiming savings for the ECM incentive. Idaho Power will continue to use the IDL workpaper along with an Idaho Power savings calculator.

The evaluators recommended Idaho Power integrate the modeling results contained in the workpaper provided by the IDL when claiming savings for the whole-house fan incentive. Idaho Power has started collecting the data necessary in its application forms to implement this method. The company reviewed modeling the savings results using the IDL workpaper and found the results to be similar to the 446 kWh currently being claimed for the measure.

Another recommendation was that Idaho Power ensure the measure level savings applied to the heat pump water heater matches the RTF workbook interactive components such as cooling and heating interactions. The savings calculation was updated before reporting the *DSM 2021 Annual Report* savings to match the savings as shown in the RTF workbook version 5.3. They were used again in 2022.

The evaluators recommended Idaho Power refrain from claiming smart thermostat savings for smart thermostats that get connected to heat pumps that are installed to Performance Tested Comfort System (PTCS) standards and Idaho Power is claiming the PTCS savings. Idaho Power has removed smart thermostat savings that are included with heat pump installations in which PTCS savings are also claimed.

Another recommendation was that Idaho Power use the evaluator's billing analysis to claim savings for ducted air-source heat pumps upgrade measure as the alternative to the current savings which combined the RTF's ducted air-source heat pump upgrades with the RTF's deactivated CCS savings workbook. The savings from the billing analysis differed significantly from the RTF deemed savings value. The savings for ASHP upgrades alone range from 20 to 107 kWh annually. CCS savings are additive and would increase the upgrade savings to 556 to 1,002 kWh. The billing analysis conducted by the evaluators showed that savings were approximately 1,263 kWh. While the evaluators were unable to separate the estimated savings between the ASHP upgrade and the CCS savings, the analysis seems to indicate that CCS savings are occurring. For 2022, Idaho Power continued to use the RTF savings and CCS savings. Due to the changes in federal standards that went into effect in January 2023, Idaho Power will remove the upgrades as a standalone measure from the program in 2023.

The evaluators recommended Idaho Power continue to use the RTF's savings values for the ducted air-source heat pump conversion measure. In addition, due to the RTF deactivation of the CCS workbook and the results of the Evaluator's billing analysis, the Evaluators recommend that Idaho Power not claim additional savings for those projects. While the billing analysis conducted for the ASHP conversions could not show significant savings for CCS, the billing analysis for ASHP upgrades showed significantly higher savings than the RTF upgrade savings with CCS. That particular billing analysis seemed to indicate CCS savings are occurring. Additionally, Bonneville Power Administration (BPA) is continuing to use deactivated CCS saving for ASHPs that undergo PTCS. Idaho Power will continue to follow BPA's PTCS specifications for CCS. For 2022, Idaho Power used the savings from the RTF workbook version 5.1 and CCS savings. Due to the changes in federal standards that went into effect in January 2023, the RTF updated the ASHP workbook. With the recently updated RTF workbook version 7.1, the ASHP included a mix of program practices, which includes programs with and without CCS requirements, into the development of the deemed savings values. Going forward, Idaho Power will not be adding CCS savings since it will be embedded in the ASHP savings from the RTF.

Training

The evaluators recommended Idaho Power provide additional training to the Participating Contractors administering the ducted air-source heat pump measure to ensure requirements are being met for the Performance Tested Comfort System savings adder from the RTF. Idaho Power will continue providing additional training to contractors to help them meet program requirements for this measure.

It was recommended Idaho Power reach out to existing contractors using trainings, in-person visits, and other methods to maintain and develop relationships. Idaho Power continues to provide trainings and arrange visits with contractors to maintain and grow the relationships. Idaho Power's relationships with the contractors has been a strong asset to the program's performance.

The evaluators recommended Idaho Power provide additional efforts to provide educational training to build contractor awareness of the program and its requirements. Idaho Power will continue to provide training to existing and new contractors to increase their participation in the program. Idaho Power understands the reasons for a contractor's lack of participation can be complex. The program does require contractors to have existing technical knowledge of heat pumps to perform the program requirements. To help address that need, Idaho Power works directly with contractors to increase their technical knowledge. As additional Idaho Power resources become available, those resources will be made available to assist contractors.

The evaluators recommended Idaho Power provide instructional education for homeowners self-installing smart thermostats through the program. It was also recommended that the incentive be increased to encourage the homeowners to have their smart thermostat installed

properly to their equipment. Idaho Power provides educational guidance on the measure web landing page describing the importance of setting up key energy impacting features on these thermostats. An increase in the incentive amount is not planned. This is due to cost-effectiveness constraints and the belief that the homeowner's technical ability is not proportional to the incentive amount.

Marketing/Outreach/Incentives

Another recommendation was that Idaho Power invest in more marketing and outreach with timing sensitive to customer's propensity to be engaged in home upgrade projects. A focus on Smart Thermostats was also recommended. Idaho Power believes the amount and types of marketing tactics being used by the program are correct and have appropriate timing. Measure level and portfolio-level tactics are used. Idaho Power continues to adjust the program's marketing tactics and frequency to maximize the effectiveness of the messaging content.

It was recommended Idaho Power create a qualified products list for the smart thermostat incentive to ensure the features required by the RTF are present on the thermostat brands and models that receive the incentive. The smart thermostat products available and their features are evolving constantly, rendering a qualified products list impractical. Idaho Power does consider all information provided by the RTF and will adjust this measure as necessary. Additionally, with the recent updates to smart thermostat savings from the RTF, the retail do-it-yourself option will need to be modified or removed from the program offering.

Another recommendation was that Idaho Power increase the customer incentive amounts for existing measures and expand the number of measures offered. An increase to the contractor stipend was also recommended for heat pump installations. Idaho Power continues to expand the program measures, most recently with two new measures added July 1, 2022. Incentive amounts and contractor stipends are periodically reviewed. Idaho Power will continue to review these incentives and stipend amounts and will adjust them as necessary, considering cost-effectiveness of the measure and the program as a whole.

It was recommended Idaho Power engage with the RCEAs to obtain their help in promoting the program. Idaho Power has engaged with its residential and commercial energy advisors on this program and will continue to do so in the future; residential and commercial energy advisors have been and continue to be a helpful resource to keep vendors and customers informed about the program measures.

The evaluators recommended working with the supply chain to understand the local availability of ducted heat pumps and their associated HSPFs. An incentive for distributors was recommended to motivate distributors to encourage contractors to install higher efficient units. Idaho Power interacts with and understands the local heat pump supply chain and their mix of

heat pumps and associated HSPFs. Idaho Power does not believe a distributor tier incentive is needed to motivate contractors into selling higher efficiency DHPs because the installing contractors already determine what the best solution is for their customer's individual needs.

RTF Workbooks

The evaluators recommended Idaho Power continue to require additional documents to verify the components for PTCS certification to ensure future RTF workbooks remain applicable. This recommendation applies to the ducted ASHP measure. Idaho Power will continue to require and collect this information using the required program forms. For example, the evaluator suggested collecting additional documents listing heat pump British thermal units (BTU) outputs at 17° F and 47° F. These outputs are contained in the required Air-Conditioning, Heating, and Refrigeration Institute (AHRI) Certificate of Product Ratings. The program forms were updated in 2022 and reflect the new PTCS standard released in April 2022 by the BPA.

The evaluators recommended Idaho Power continue analyzing impacts of the RTF's commissioning, controls, and sizing (CCS) workbook through measurement or billing analysis until the RTF presents a new workbook to replace the workbook deactivated in 2020. [This recommendation applies to the ducted ASHP measure.] With the recently updated RTF workbook version 7.1, a mix of program practices were embedded in the savings, including programs with and without CCS requirements. However, the program will continue to require the participating contractors to adhere to CCS as it has since the inception of the measure. In early 2023 the program will broadcast the new BPA CCS specifications that were launched April 2022. This will involve contractor training, incentive application form redesign, and internal systems and website edits. BPA continues to advocate for proper CCS and continues to research its impact on savings. Idaho Power will look to the BPA research to see what can be done for CCS going forward.

Another recommendation was that Idaho Power continue to use the RTF Connected Thermostat workbook to evaluate savings for the Smart Thermostat measure. The evaluators suggested revisiting the billing analysis provided by the evaluators when additional self-installed incentives are processed. Idaho Power will continue to use the most recently acknowledged RTF workbook at the time of program planning for the following year. The RTF recently updated the connected thermostat workbook in January 2022 and reduced the savings for self-installed thermostats from a simple average of 718 kWh to 295 kWh. These revised savings are more closely aligned to the savings the evaluators found in the billing analysis. In 2023, Idaho Power will determine how the program will need to be modified in the future to address the lower savings from the self-installed smart thermostats.

2023 Plans

Idaho Power will continue to provide program training to existing and prospective contractors to assist them in meeting program requirements and further their product knowledge.

Training remains an important part of the program because it creates the opportunity to invite additional contractors into the program, is a refresher for contractors already participating in the program, and helps them increase their customers' participation while improving the contractors' work quality and program compliance.

Idaho Power's primary goals in 2023 are to develop contractors currently in the program while adding new contractors. To meet these goals, the program specialist will frequently interact with contractors in 2023 to discuss the program.

The 2023 marketing strategy will include bill inserts, direct-mail, social media, digital and search advertising, and email marketing to promote individual measures as well as the overall program.

Home Energy Audit

	2022	2021
Participation and Savings		
Participants (homes)	425	37
Energy Savings (kWh)	28,350	3,768
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	$184,650	$70,448
Oregon Energy Efficiency Rider	$0	$0
Idaho Power Funds	$208	$0
Total Program Costs—All Sources	$184,858	$70,448
Program Levelized Costs		
Utility Levelized Cost ($/kWh)	$0.771	$2.173
Total Resource Levelized Cost ($/kWh)	$1.000	$2.328
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 energy efficiency measures are appropriate. 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 feet [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 multifamily 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.

Program Activities

Two home performance specialist companies served the program in 2022 and completed 425 energy audits. The number and percentage of audited homes per heating fuel type are listed in Table 12.

Table 12. Number and percentage of audited homes per heating fuel type

Fuel Type	Number of Homes	Percent
Electric	168	39.53%
Natural Gas	237	55.76%
Oil	2	0.47%
Pellets	7	1.65%
Propane	7	1.65%
Wood	4	0.94%

Quality assurance (QA) for the program has been suspended since 2020 due to COVID-19 restrictions and the ramp-up time to complete projects in the pipeline as a result. The QA for 2022 projects will occur in 2023, and Idaho Power is exploring the potential to transition to a survey format to both work through the pipeline of QAs and reduce program costs.

Marketing Activities

To allow contractors to work through the long waitlist of interested customers that was created when in-home work was suspended in 2020 and 2021, Home Energy Audit marketing was limited in 2022.

Although there was still a waitlist throughout 2022, a bill insert was sent to 295,109 residential customers in July to help maintain program visibility. Website updates were made throughout the year to keep program details up to date.

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, 19.81%; family member or friend, 14.45%; Idaho Power employee, 13.29%; social media, 3.50%; other, 47.78%; did not reply, 1.17%.

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 use the traditional cost-effectiveness tests.

For the items installed directly in the homes, Idaho Power used the RTF savings for direct-install lightbulbs, which range from 4.73 to 14.21 kWh per year. This was a slight change over the 2021 lightbulb savings, which ranged from 4.68 to 17.59 kWh per year depending on lightbulb type and installation location.

In Idaho Power's *Energy Efficiency Potential Study*, it is estimated that pipe wraps save 76 kWh per year. Savings for pipe wrap are counted for homes with electric water heaters.

While Idaho Power does not calculate a cost-effectiveness ratio for the Home Energy Audit program, the savings benefits and costs associated with direct-install measures have been included in the sector and portfolio cost-effectiveness. Idaho Power also converted the 76 kWh of pipe wrap savings to 2.59 therms and those gas savings are included in the sector and portfolio cost-effectiveness as non-energy benefits.

2023 Plans

The program will be lightly marketed in 2023 while contractors continue to work through the waitlist. Once most customers have been served, Idaho Power will resume 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.

Home Energy Report Program

	2022	2021
Participation and Savings		
Participants (homes)	104,826	115,153
Energy Savings (kWh)*	20,643,379	15,929,074
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	$964,709	$970,197
Oregon Energy Efficiency Rider	$0	$0
Idaho Power Funds	$82	$0
Total Program Costs—All Sources	$964,791	$970,197
Program Levelized Costs		
Utility Levelized Cost ($/kWh)	$0.044	$0.057
Total Resource Levelized Cost ($/kWh)	$0.044	$0.057
Benefit/Cost Ratios**		
Utility Benefit/Cost Ratio	0.71	0.57
Total Resource Benefit/Cost Ratio	0.79	0.62

*2021 reported savings of 16,767,446 kWh discounted by 5% to account for potential double-counting of savings from other programs. 2022 reported savings of 20,734,611 kWh discounted by 0.44% based on evaluated double-counting estimate

**Home Energy Report Program cost-effectiveness also calculated on a program life-cycle basis to account for savings persistence once treatment ends. The program has a life cycle UCT and TRC of 1.17 and 1.29, respectively.

Description

The objective of the HER Program is to encourage customers to engage with their home's electricity use with a goal to produce average annual behavioral savings of 1 to 3%. The program also promotes customer use of online tools and participation in other energy efficiency programs. Idaho Power works with a third-party contractor to operate the program.

Participants receive periodic reports with information about how their homes' 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. The program contractor estimates energy savings by completing a statistical comparison of the energy used by customers who receive the reports against the energy used by a control group. Since the savings estimates rely on the integrity of the experimental design, participants in both the treatment (those receiving reports) and the control group are selected through a process of randomization.

Program Activities

In 2022, all HER Program participants received quarterly reports in the months of February, May, August, and November.

In addition to showing participants how their energy compared relative to similar homes, each quarterly report delivered in 2022 addressed weather-related usage, as appropriate, along with other tips related to appliances, lighting, and always-on devices. The February reports recommended either ways to reduce electric heating costs or ways to cut energy costs associated with laundry and small kitchen appliances. In May, customers with significant A/C use during the previous summer received tips to reduce upcoming cooling bills while others learned about energy audits. The August reports were, once again, segmented between participants with significant A/C use and those whose energy use was less affected by weather. In November, customers with electric space heating received information regarding their previous winter's use along with heating tips while the remaining customers were divided into those using electric hot water heaters and those who did not.

In an effort to increase customer engagement and program savings, Idaho Power began sending email reports (eHER), in addition to paper reports, to participants for whom Idaho Power had an email address on file. Over 52,000 eHERs were delivered in August, compared to just 53 in May. The open rate was high (49%), and the call-in rate remained low. Following the August reports, 185 participants permanently switched to email only delivery.

In 2022, as in 2021, the savings results for the pilot participants identified as electric heating customers were not statistically significant as stand-alone cohorts; however, these participants did contribute to the overall program savings. The participants joining the program in 2020 once again saw increases in both their savings percentage and kWh savings per customer, increasing from 0.98% to 1.35% and from 144.28 kWh to 206.61 kWh, respectively. On average, the combined group of active participants used an average of 200.74 fewer kWh per home than their control group counterparts. When viewed in aggregate, the estimated savings for all program participants was about 1.31% below their respective control groups, for a total reported savings of 20,474,995 kWh. The small group of customers who received their last report in February of 2020 continued to demonstrate persistent savings. With their residual savings included, total 2022 reported program savings came to 20,734,611 kWh. On average, program participants are providing savings at between 56 to 267 kWh annually per home.

Idaho Power's customer solutions advisors responded to 409 HER Program-related phone calls during the year. Given that 505,735 reports were delivered, this represents a call rate of just under 0.08%. The participant-driven opt-out rate was down from 0.17% in 2021 to 0.08% in 2022—significantly lower than the industry average of 1%. Overall attrition in 2022 was 6.92%—down slightly from 7.82% in 2021 (includes opt-outs, move-outs, etc.).

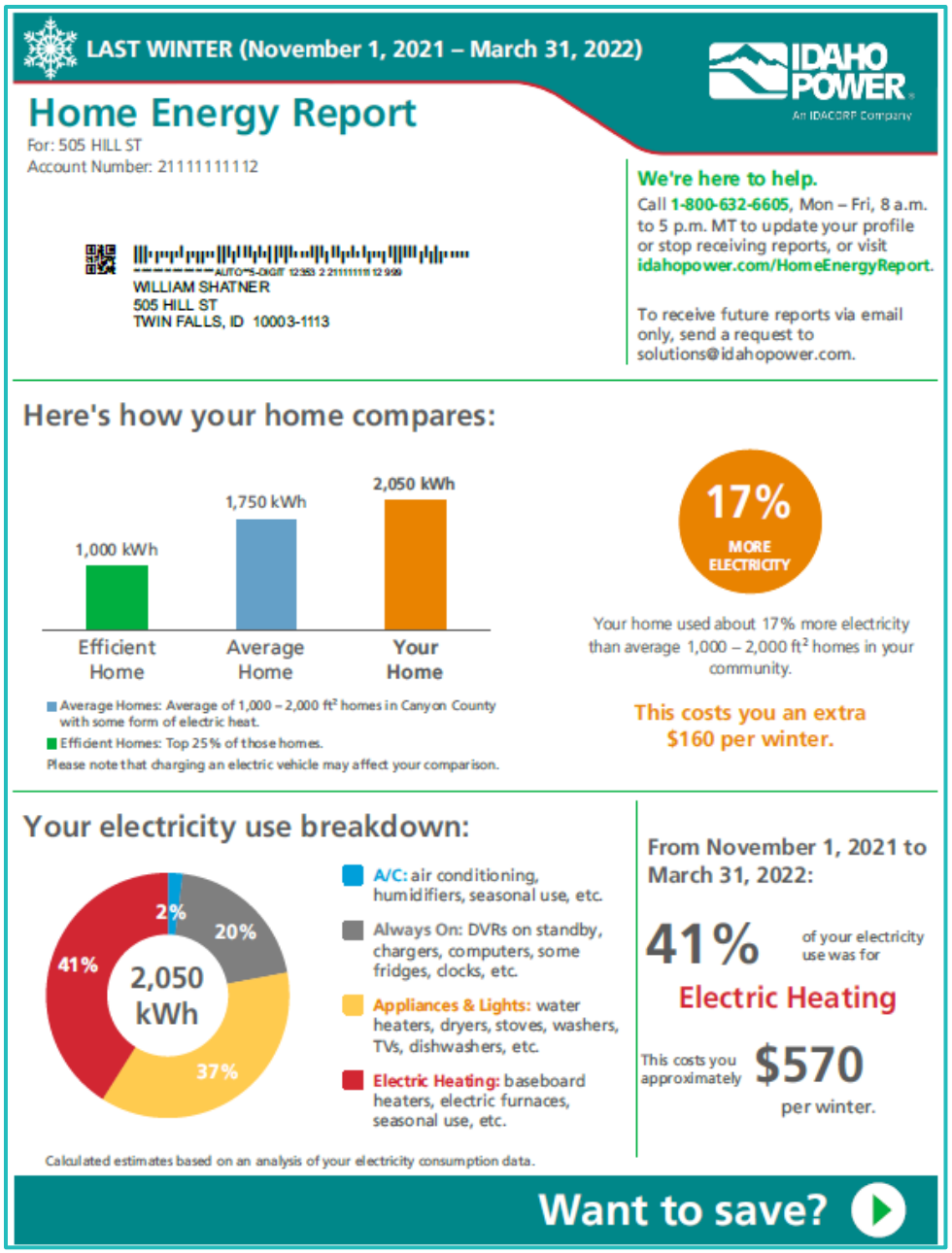


Figure 18. Page 1 of a sample *Home Energy Report*

Marketing Activities

Because the HER Program is based on a randomized control trial (RCT) methodology, the reports cannot be requested by customers, therefore the program is not marketed. The periodic reports were, however, used to cross-market Idaho Power's other energy efficiency programs (i.e., Home Energy Audits, H&CE Program, and ENERGY STAR® lighting), as well as Account Alerts and My Account.

Cost-Effectiveness

HER Program savings are calculated each year using measured usage of the customers receiving the reports relative to a statistically similar control group that does not receive the reports. Due to the potential of double-counting savings from other programs, Idaho Power discounts the HER Program savings of 20,734,611 kWh by 0.44% to report savings of 20,643,379 kWh. This percentage was reviewed as part of the 2022 impact evaluation. Based on the reported savings of 20,643 MWh, the UCT and TRC for the program are 0.71 and 0.79, respectively, for 2022. If the amount incurred for the 2022 evaluation was removed from the program's cost-effectiveness, the UCT would be 0.74, while the TRC would be 0.81.

Due to the continuous nature of the HER Program with costs and savings extending over numerous years for the same participants, a program life cost-effectiveness is used to understand the cost-effectiveness of the program as a whole. The analysis uses 2020 as the start year and assumes the program continues to send reports until the current contract ends in 2023. Savings per participant decrease at 20% per year from 2024 through 2026, at which point it is assumed the treatment no longer impacts the participants. Total participation also declines at 10% per year, which is the approximate observed annual attrition for the program. The life-time analysis has been updated to incorporate the 2022 program performance and updated 2023 savings projections from the third party. In late 2022, the IPUC and the OPUC formally acknowledged Idaho Power's *2021 IRP*. The demand-side management avoided costs from the *2021 IRP* are used to provide the monetary value for the energy savings in 2023 and beyond.

In February 2022, the RTF proposed guidelines for reviewing cost-effectiveness for behavioral programs. The company reviewed these guidelines and incorporated the concepts into the lifetime cost-effectiveness analysis. This lifetime analysis calculates UCT and TRC ratios of 1.17 and 1.29, respectively.

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

Evaluations

In 2022, Idaho Power contracted a third-party evaluator to conduct an impact evaluation for the HER Program. The evaluation report for the HER Program was completed in September 2022. See *Supplement 2: Evaluation* for the complete report.

Recommendations were as follows:

The evaluators recommend that Idaho Power and the implementer continue to prioritize the validity of each treatment and control group in order to maintain ability to estimate program savings. Previous changes throughout the program have resulted in maintenance of group validity due to additional steps relating to randomization, validity checks, and prioritization of

statistical validity. The evaluators recommend IPC continue such efforts to ensure future program savings are evaluable and quantifiable. Idaho Power and the implementer are aware of the complexity involved in the various control and treatment groups established during the pilot program and 2020 expansion and will continue to maintain the validity of each group according to industry best practices as established by the National Renewable Energy Laboratory's (NREL) Behavioral Programs Guide.

Although the pilot phase of the program indicated that low to medium annual energy users displayed low propensity for energy savings, the evaluators found that these users (group T5) have displayed high persistence savings in recent years. Therefore, the evaluators recommend that Idaho Power allow customers with low to medium annual energy use to be eligible for participation in the program for any and all future group expansions. At present, the company does not have plans to expand the program; however, Idaho Power will closely monitor the persistent savings for T5 and use those findings to inform decisions surrounding any future expansion.

The evaluators recommend that Idaho Power continue to include customers that have converted from I01 rate schedule (general residential rate) to I06 rate schedule (customer generation rate) in the T1 through T6 groups and refrain from reallocating them to another treatment group. This will ensure that all legacy groups remain statistically valid and evaluable. Idaho Power will continue to include I06 customers in their original T1/C1 through T6/C6 groups for evaluation purposes. When a HER participant transitions from the I01 to the I06 rate schedule, however, quarterly HERs will be discontinued as the home comparison no longer applies. This is consistent with current practice.

The evaluators recommend that if a group is designed for the program in the future, that the lack of benchmarking characteristics is not used as a prerequisite for participation. This will ensure that the maximum number of customers are eligible for the Home Energy Report Program and therefore the program retains higher potential for total program energy savings. Idaho Power will take this recommendation under consideration. The delivery of accurate and useful information is critical to a positive customer experience. Further, the implementer has requirements regarding adequately sized benchmark groups. If a future expansion occurs, Idaho Power will consult industry best practices and confer with the selected implementer, as well as other stakeholders.

2023 Plans

Idaho Power plans to continue to deliver *Home Energy Reports* to active program participants on a quarterly schedule with reports arriving in February, May, August, and November. Participants with high A/C use or winter heating will also receive seasonal reports in either May or November, as appropriate.

As *Home Energy Reports* delivery is slated to end at the conclusion of 2023 under the current contract, Idaho Power will actively review the program's cost-effectiveness, overall savings, and customer experience with an eye to selecting the best option(s) going forward.

Multifamily Energy Savings Program

	2022	2021
Participation and Savings		
Projects (units [buildings])	97 [3]	0
Energy Savings (kWh)	41,959	0
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	$32,634	$65,525
Oregon Energy Efficiency Rider	$1,474	$3,449
Idaho Power Funds	$72	$0
Total Program Costs—All Sources	$34,181	$68,973
Program Levelized Costs		
Utility Levelized Cost ($/kWh)	$0.096	n/a
Total Resource Levelized Cost ($/kWh)	$0.096	n/a
Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	0.49	n/a
Total Resource Benefit/Cost Ratio	0.68	n/a

Description

The Multifamily Energy Savings Program provides for the direct installation of energy-saving products in multifamily 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 multifamily dwelling as a building consisting of five or more rental units. The products installed include the following: ENERGY STAR® LED lightbulbs, high-efficiency thermostatic shower valve (TSV) showerheads, kitchen and bathroom faucet aerators, and water heater pipe insulation.

To ensure energy savings and eligibility, Idaho Power pre-approves each building and the contractor who will install the energy efficiency measures. Upon approval, the no-cost, direct installation is scheduled, and a tailored door hanger is placed on tenants' apartments to explain the schedule and process of the installation.

Program Activities

Due to the program becoming not cost-effective and with the support of EEAG, the program was closed December 31, 2022. Before its closing, three direct-installation projects were completed in 2022. One each in the South–East, Canyon–West, and Capital regions for a combined total of 92 units and five common-area spaces.

Marketing Activities

Idaho Power continued to run three alternating, clickable ads on its Landlord/Property Manager Requests web page that linked users to the Multifamily Energy Savings Program web page.

A marketing video placed at the top of the Multifamily Energy Savings Program web page also continued to run in 2022. 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 homes. At the end of the video, company contact information is provided.

In April, the program specialist participated in the Idaho Apartment Association Conference and Trade Show to market the program to property owners and managers; Idaho Power placed a print ad in the trade show program

Cost-Effectiveness

The UCT and TRC of the program are 0.49 and 0.68, respectively.

Due to the reduction of savings for the deemed measure options, the program in its current format is unable to remain cost-effective going forward. The RTF is the source of savings for many of the measures in the program. Based on the RTF version 9.4 lighting workbook, these savings now range between 4.73 to 13.81 kWh. To improve the accuracy of the data being collected, Idaho Power modified the installation worksheets. For lightbulbs installed in interior locations, Idaho Power had previously used a simple blend of savings for high- and moderate-use direct-install savings. With the updated savings worksheets, Idaho Power is able to directly assign the appropriate RTF direct-install savings. Additionally, some lightbulbs were installed in common areas, such as laundry rooms, hallways, and stairways. The updated worksheet was used to calculate the lighting savings for each install based on information around the existing lamp and the location of the installation. However, there are still challenges related to the other direct-install items with the company no longer able to claim savings for faucet aerators and the integrated showerhead with the TSV claiming only 50 kWh of annual savings.

Idaho Power shared these challenges with EEAG in 2021 and 2022. The company held a small subcommittee meeting in early 2022 to discuss the savings assumptions around the program and alternatives to the current direct-install retrofit model. The company was directed to reach out to the ETO to learn more about their multifamily program. ETO faced similar cost-effectiveness challenges with their direct-install multifamily program and suspended it in 2020. Based on the inability to run the direct-install program cost-effectively, Idaho Power announced to EEAG its intent to close the program in 2022. A prescriptive-based incentive program is being explored as an alternative cost-effective option for customers.

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

2023 Plans

Due to the closing of the program as of December 31, 2022, there are no activities planned for 2023, however, Idaho Power continues to pursue alternative program options for multifamily residences and believes it will have some type of new offering available in 2023.

Oregon Residential Weatherization

	2022	2021
Participation and Savings		
Participants (audits/projects)	7	0
Energy Savings (kWh)	0	0
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	$0	$0
Oregon Energy Efficiency Rider	$8,825	$4,595
Idaho Power Funds	$0	$0
Total Program Costs—All Sources	$8,825	$4,595
Program Levelized Costs		
Utility Levelized Cost ($/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 to 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

Seven audits were completed in 2022. None of the audit customers chose to pursue energy efficiency upgrades.

Marketing Activities

In October, Idaho Power sent 10,336 Oregon residential customers 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 7, 15, 25, and 30 years.

2023 Plans

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

Rebate Advantage

	2022	2021
Participation and Savings		
Participants (homes)	97	88
Energy Savings (kWh)	255,541	235,004
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	$157,746	$164,243
Oregon Energy Efficiency Rider	$9,762	$8,950
Idaho Power Funds	$115	$0
Total Program Costs—All Sources	$167,622	$173,193
Program Levelized Costs		
Utility Levelized Cost ($/kWh)	$0.043	$0.046
Total Resource Levelized Cost ($/kWh)	$0.104	$0.088
Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	1.18	1.13
Total Resource Benefit/Cost Ratio	0.54	0.66

Description

Initiated in 2003, the Rebate Advantage program helps Idaho Power customers in Idaho and Oregon with the initial costs associated with purchasing new, energy-efficient, ENERGY STAR® qualified manufactured homes. This enables the homebuyer to enjoy the long-term benefit of lower electric bills and greater comfort. 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 educates manufactured home buyers and retailers about the benefits of owning energy-efficient models. The Northwest Energy-Efficient Manufactured Housing Program™ (NEEM), a consortium of manufacturers and state energy offices in the Northwest, establishes quality control (QC) and energy efficiency specifications for qualified manufactured homes and tracks their production and on-site performance. NEEM adds the classification Eco-Rated™ for homes produced by factories that have demonstrated a strong commitment to minimizing environmental impacts from the construction process.

In 2019, NEEM created the most stringent manufactured home energy standard in the country, the ENERGY STAR with NEEM 2.0 specification, which was later renamed the ENERGY STAR with NEEM+ certification. NEEM+ standards are engineered to save approximately 30% more energy than ENERGY STAR standards. As a result, NEEM+ delivers the highest possible energy savings

and the highest level of overall comfort. These homes are built to specifications tailored to the Northwest climate.

Program Activities

In 2022, for each home sold under this program, the residential customer incentive was $1,000 and the sales staff incentive was $200. Idaho Power paid 97 incentives on new manufactured homes, which accounted for 255,541 annual kWh savings. This included 91 homes sited in Idaho and six sited in Oregon. Of the 97 homes in the program, 25 were NEEM+, 61 were ENERGY STAR, and 11 were Eco-Rated.

Marketing Activities

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

In April and October, Idaho Power promoted the Rebate Advantage program with a bill insert sent to 306,888 and 298,681 customers, respectively. The insert had information about the potential energy and cost savings and referred customers to the program website.

In July, the company ran programmatic display ads that garnered 661,299 impressions and 463 clicks through to the website.

In the September issue of Idaho Power's *Get Your Home Ready for Fall* all-customer energy efficiency tips email, the Rebate Advantage program was featured in a digital banner ad. When clicked, it would take customers to the Rebate Advantage web page.

Cost-Effectiveness

The UCT and TRC for the program are 1.18 and 0.54, respectively.

In 2022, Idaho Power used the same savings and assumptions source as were used in 2021. However, the number of NEEM 2.0 certified homes increased from 13 homes in 2021 to 25 homes in 2022. Manufactured homes certified under NEEM have higher savings than ENERGY STAR certified manufactured homes and are more expensive. This accounts for the slight increase in UCT and decrease in TRC as compared to 2021.

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

2023 Plans

Idaho Power plans to review the cost-effectiveness and feasibility of the updated Housing and Urban Development (HUD)/ENERGY STAR v3.0 manufactured homes code that goes into effect on May 31, 2023, in conjunction with NEEM and NEEA.

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 explore digital advertising to promote the program to potential manufactured home buyers.

Residential New Construction Program

		2022	2021
Participation and Savings			
	Participants (homes)	109	90
	Energy Savings (kWh)	337,562	389,748
	Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source			
	Idaho Energy Efficiency Rider	$236,962	$246,245
	Oregon Energy Efficiency Rider	-$1,356*	$1,356
	Idaho Power Funds	$126	$0
	Total Program Costs—All Sources	$235,732	$247,600
Program Levelized Costs			
	Utility Levelized Cost ($/kWh)	$0.045	$0.039
	Total Resource Levelized Cost ($/kWh)	$0.110	$0.082
Benefit/Cost Ratios			
	Utility Benefit/Cost Ratio	1.45	1.64
	Total Resource Benefit/Cost Ratio	0.84	0.99

*2021 Oregon activity of $1,356 was reversed and charged to the Idaho Rider in the first quarter of 2022.

Description

The Residential New Construction Program launched in March 2018 as a pilot, replacing the ENERGY STAR® Homes Northwest Program, and transitioned to a regular program in 2021. The Residential New Construction 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 10%, 15%, or 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 (REM) 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 NEEA-maintained AXIS database. This data is used to determine the energy savings and the percent above code information needed to certify the home.

Program Activities

Participating residential builders who built homes at least 10% above the standard state energy code, as determined by the REM/Rate energy modeling software and AXIS database output, were incentivized as follows:

- 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

In 2022, the company paid incentives for 109 newly constructed energy-efficient homes in Idaho, and the homes accounted for 337,562 kWh of energy savings.

Idaho Power continued its contract with Washington State University Energy Program to perform both file and field QA services on home energy ratings performed by the program raters. The university's contract also includes new rater training/on-boarding as well as working with current rater technical problems/issues.

Marketing Activities

Idaho Power participated in the Snake River Valley Building Contractors Association (SRVBCA) and the Building Contractors Association of Southwestern Idaho (BCASWI) Builders' Expos and sent marketing materials to the winter and fall Idaho Building Contractors Association (IBCA) Board Meetings.

Idaho Power supported 2022 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 April construction issue of the *Idaho Business Review* publication. A digital app ad and company listing was also included as part of the advertising package with the MVBA.

The company sent a bill insert to 305,714 Idaho customers in May to promote the program.

The program brochure was left at the City of Boise permitting office as a hard copy handout.

Cost-Effectiveness

The savings for the 109 energy-modeled homes average approximately 3,097 kWh per home depending on which efficiency upgrades were included, a decrease over the average energy-modeled savings of 4,331 kWh per home in 2021. The decrease was largely due to a couple of factors: a lower percentage of homes built in 2022 (30%) were built 20% or more above code, relative to homes built in 2021 (63%); and a lower percentage of homes built in 2022 were detached single-family homes (8%), relative to homes built in 2021 (33%).

Single-family homes tend to have larger savings when compared to attached townhomes and condos.

While savings are custom calculated for each of the 109 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 (NEB).

The UCT and TRC ratios for the program are 1.45 and 0.84, respectively.

2023 Plans

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 2023. The company also plans to continue supporting the general events and activities of the IBCA and its local affiliates. Social media and other advertising will be considered based on past effectiveness.

Shade Tree Project

	2022	2021
Participation and Savings		
Participants (trees)	1,874	2,970
Energy Savings (kWh)*	39,595	44,173
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	$128,673	$184,680
Oregon Energy Efficiency Rider	$0	$0
Idaho Power Funds	$183	$0
Total Program Costs—All Sources	$128,856	$184,680
Program Levelized Costs		
Utility Levelized Cost ($/kWh)	$0.218	$0.269
Total Resource Levelized Cost ($/kWh)	$0.218	$0.269
Benefit/Cost Ratios*		
Utility Benefit/Cost Ratio	1.02	1.07
Total Resource Benefit/Cost Ratio	1.21	1.21

* Incremental savings for trees planted between 2013–2018 not claimed in previous years.

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 or have trees delivered to their doors. 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.

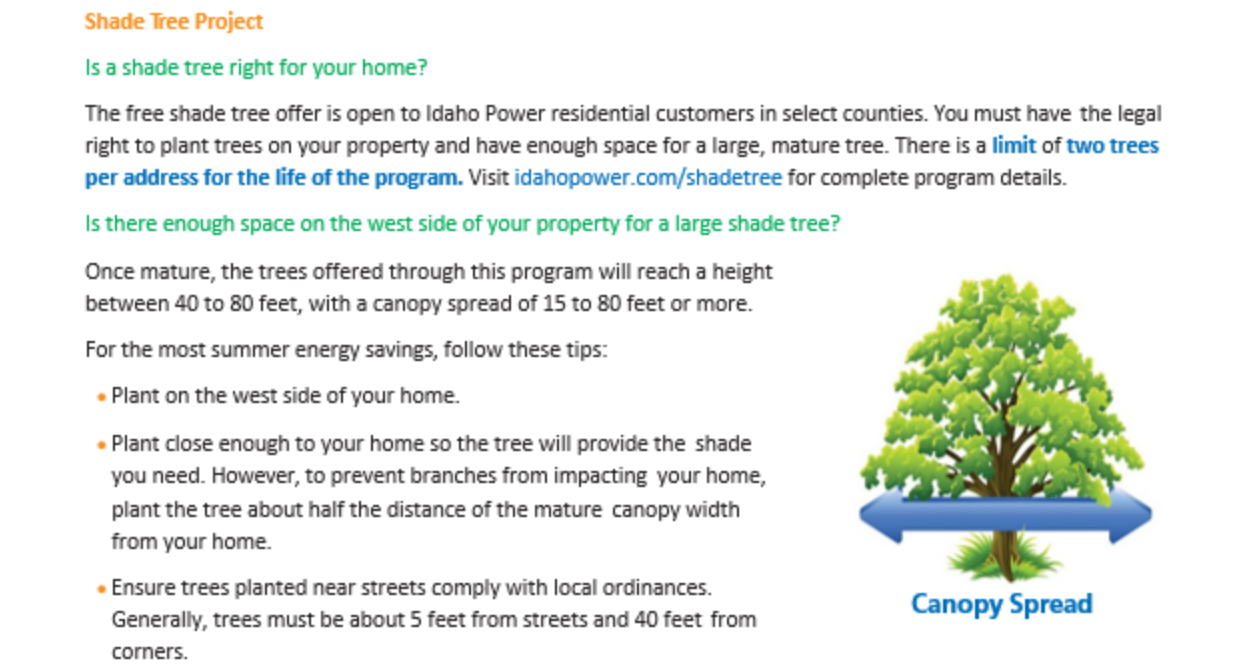
Ensuring the tree is planted properly helps it grow to provide maximum energy savings. At the tree pick-up events, participants receive additional education on where to plant trees for maximum energy savings and other tree care guidance from local experts. These local specialists include city arborists from participating municipalities, Idaho Power utility arborists, county master gardeners, and College of Southern Idaho (CSI) 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.

Figure 19. Shade Tree Project pick-up event

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. Of the trees planted in 2022, it is estimated that each tree will save approximately 28 kWh per year by 2032 and 44 kWh per year by 2042. The estimated savings for each tree is adjusted to reflect the estimated survivorship of the tree.

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.



Shade Tree Project

Is a shade tree right for your home?

The free shade tree offer is open to Idaho Power residential customers in select counties. You must have the legal right to plant trees on your property and have enough space for a large, mature tree. There is a **limit** of **two trees per address for the life of the program.** Visit idahopower.com/shadetree for complete program details.

Is there enough space on the west side of your property for a large shade tree?

Once mature, the trees offered through this program will reach a height between 40 to 80 feet, with a canopy spread of 15 to 80 feet or more.

For the most summer energy savings, follow these tips:

- Plant on the west side of your home.
- Plant close enough to your home so the tree will provide the shade you need. However, to prevent branches from impacting your home, plant the tree about half the distance of the mature canopy width from your home.
- Ensure trees planted near streets comply with local ordinances. Generally, trees must be about 5 feet from streets and 40 feet from corners.

Figure 20. Excerpt from spring direct-mail letter

Program Activities

While preparing for the 2022 season, it was not known if COVID-19 might impact in-person pick up events as it had in 2020 and 2021. The decision was made to offer hybrid events in 2022, which would allow customers to choose to receive their trees at an in-person event or have their trees shipped directly to their home. By offering hybrid events, Idaho Power was able to limit the number of people coming to collect their trees and ensure that the events were held in a safe manner should COVID-19 social distancing protocols need to be enforced. It also allowed an option for those customers that might not feel comfortable attending an in-person offering to still participate and receive their free trees.

The spring offering was made available to those customers that live in the Treasure Valley and the fall offering was available for those customers that reside in the Magic Valley. For each event, Idaho Power offered 500 3-gallon trees to be picked up at an in-person event and 500 1-gallon trees to be shipped directly to customers homes. Idaho Power collaborated with the Arbor Day Foundation to provide and ship the delivery trees. After the fall offering, there were over 100 trees that had not been reserved or were unclaimed. A small, impromptu offering in November was made available to customers in the Treasure Valley during which 47 of the leftover trees were claimed.

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. Participation in the program remains two trees per address for the life of the program.

Marketing Activities

At the start of both the spring and fall campaigns, the company sent direct-mail letters to select customers, explaining the benefits of shade trees and encouraging program enrollments.

In spring 2022, Idaho Power sent two "enrollment open" emails encouraging customers in the Treasure Valley to sign up for trees; for those who chose the delivery option, Idaho Power sent "get ready" emails that included tree care tips and links to educational resources, and for those who chose the pick-up option, Idaho Power sent reminder emails that included pick-up event details and links to tree care resources. Idaho Power did the same for fall enrollment, except the emails were sent to Magic Valley and Wood River Valley customers. Due to slow enrollments in the fall campaign, Idaho Power sent additional emails after deciding to open enrollment to Ada County customers. To help with slow enrollment during the fall campaign, the program was promoted on Facebook and Twitter, and described in *News Briefs*, sent to regional news outlets to spread the word about the available trees.

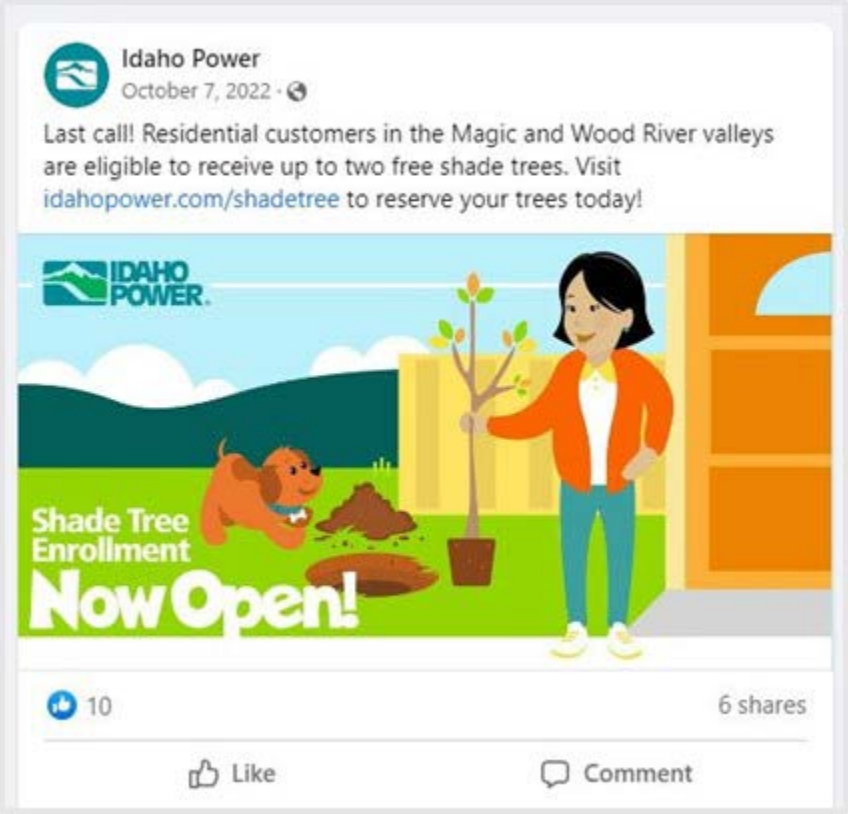


Figure 21. Shade Tree Project social media post

Cost-Effectiveness

For the Shade Tree Project, Idaho Power uses 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 software tool, i-Tree, estimates these benefits for

years 5, 10, 15, and 20 after the tree planting year. However, the savings estimates assume each tree is planted as planned and does not consider survivorship. Idaho Power contracted with a third party to develop a model to calculate average values per tree using the tool data and calculated a realization rate based on the survival rate. Unlike traditional energy-savings measures in which the annual savings remain flat throughout the measure life and only first-year savings are reported, the savings for trees grow as the tree grows when using the realization rate based on survival. The calculator was used to estimate the 39,595 kWh of incremental claimable savings in 2022 for the trees planted between 2013 and 2018.

The cost-effectiveness for the program is based on the modeled savings for the trees distributed in 2022 and costs incurred during 2022. Of the tree distributed in 2022, 843 were distributed at in-person events and 1,031 were delivered directly to customers by mail. The trees delivered through the mail are estimated to be approximately one year younger than the trees distributed at the in-person events, which the calculator was based on. To adjust for this, the year the company could begin claiming savings was pushed out a year, thus the trees delivered by mail in 2022 will begin saving 17,656 kWh in 2027 while the trees distributed in person will begin saving 8,486 kWh in 2026 and 9,026 kWh in 2027. The cost-effectiveness calculations also include a NTG factor of 124%, which accounts for the spillover associated with the trees shading a neighboring home as well as various non-energy impacts related to the improved air quality, avoided stormwater runoff, and winter heating detriment. It is estimated that these trees will save 80,521 kWh in 2062. Based on the model, the project has a UCT of 1.02 and a TRC ratio of 1.21.

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 the program marketing, tree-planting education, and participation experience with the enrollment and tree delivery processes. Results are compared, offering to offering, to look for trends to ensure the program processes are still working to identify opportunities for improvement. Because this was Idaho Power's first year shipping the trees directly to customers, Idaho Power is also comparing customer satisfaction results from participants who picked up trees at in-person events in the past. Data is also collected about where and when the participant planted the tree. This data will be used by Idaho Power to refine energy-saving estimates.

In total, the survey was sent to 970 Shade Tree Project participants and 362 responses were received, for a response rate of 37%. Some highlights included the following:

- Almost 45% of respondents heard about the program from an Idaho Power email, and over 29% learned of the program from a friend or relative.
- Almost 79% of respondents were "very satisfied" with the information they received on the planting and care of their shade tree while over 17% of respondents were "somewhat satisfied."
- Participants were asked how much they would agree or disagree they would recommend the project to a friend. Nearly 91% of respondents said they "strongly agree," and over 7% said they "somewhat agree."
- Participants were asked how much they would agree or disagree they were satisfied with the overall experience with the Shade Tree Project. Almost 81% of respondents indicated they "strongly agree," and nearly 15% "somewhat agree" they were satisfied.

View the complete survey results in *Supplement 2: Evaluation*.

2023 Plans

Idaho Power plans to continue the Shade Tree Project in 2023, with the spring offering to customers in the Portneuf Valley and the fall event to customers in the Treasure Valley. Due to the general reduced satisfaction from direct-mail recipients and the easing of concerns over COVID-19 restrictions, the direct-mail option will be discontinued in 2023 and only in-person events will be held. The enrollment process will remain the same, using the Arbor Day Foundation enrollment tool.

Idaho Power will continue to market the program through direct-mail, focusing on customers identified as living in newly constructed homes and those identified using the Urban Tree Canopy Assessment tool in the Treasure Valley. The program will explore the opportunity to be promoted in the *Home Energy Report*. In addition, Idaho Power maintains a wait list of customers who were unable to enroll because previous offerings were full. Idaho Power will reach out to these customers through email for the 2023 offerings. Idaho Power will continue to leverage allied interest groups and use social media and boosted Facebook posts if enrollment response rates decline.

Weatherization Assistance for Qualified Customers

	2022	2021
Participation and Savings		
Participants (homes/non-profits)	147	162
Energy Savings (kWh)	272,647	291,105
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	$1,281,495	$1,186,839
Total Program Costs—All Sources*	$1,281,495	$1,186,839
Program Levelized Costs		
Utility Levelized Cost ($/kWh)	$0.338	$0.254
Total Resource Levelized Cost ($/kWh)	$0.535	$0.374
Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	0.17	0.19
Total Resource Benefit/Cost Ratio	0.32	0.31

* 2021 and 2022 Total Program Costs include accounting accruals and reversals associated with unspent dollars carried over into the next year. These accruals and reversals have been removed from the cost-effectiveness and levelized cost calculations.

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 and 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. Regional 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 electrically heated buildings.

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 weatherization funds to serve more customers with special needs in electrically heated homes.

Idaho Power has an agreement with each CAP agency in its 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.

Annually, Idaho Power verifies a portion of the homes weatherized under the WAQC program. This is done through two methods. The first method uses a state monitoring process where either an independent quality-control inspector or trained peers ensure measures were installed to DOE and state WAP specifications. Utility representatives, weatherization personnel from the CAP agencies, and CAPAI, review homes weatherized by each of the CAP agencies. In 2022, eight Idaho Power funded homes were chosen for review.

For the second method, Idaho Power contracts with two companies that employ building performance specialists to verify the installed measures. After verification, any required follow-up is done by CAP agency personnel. In 2022, six homes were verified by Idaho Power's home verifiers.

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 2022, Idaho Power made $2,083,519 available to Idaho CAP agencies. Of the funds provided, $934,615 were paid to Idaho CAP agencies, while $1,148,905 were accrued for future funding. This relatively large carry over was caused by supply chain limitations and labor shortages limiting the number of homes CAP agencies weatherized. Of the funds paid in 2022, $849,650 directly funded audits, energy efficiency measures, and health and safety measures for qualified customers' homes (production costs) in Idaho, and $84,965 funded administration costs to Idaho CAP agencies for those homes weatherized.

In 2022, Idaho Power funds provided for the weatherization of 147 homes and no non-profit buildings in Idaho. Table 13 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 13. WAQC activities and Idaho Power expenditures by agency and county in 2022

Agency/County	Number of Homes	Production Cost	Average Cost	Administration Payment to Agency	Total Payment
Idaho Homes					
EICAP					
Lemhi	6	$ 34,876	$ 5,813	$ 3,488	$ 38,364
Agency Total	**6**	**$ 34,876**		**$ 3,488**	**$ 38,364**
EL ADA					
Ada	72	422,557	5,869	42,256	464,813
Elmore	8	52,174	6,522	5,217	57,391
Owyhee	10	65,230	6,523	6,523	71,754
Agency Total	**90**	**$ 539,961**		**$ 53,996**	**$ 593,957**
Metro Community Services					
Adams	1	7,836	7,836	784	8,619
Boise	1	6,848	6,848	685	7,532
Canyon	19	97,333	5,123	9,733	107,066
Gem	2	15,374	7,687	1,537	16,911
Payette	4	29,365	7,341	2,936	32,301
Valley	2	13,725	6,863	1,373	15,098
Agency Total	**29**	**$ 170,479**		**$ 17,048**	**$ 187,527**
SCCAP					
Blaine	1	8,634	8,634	863	9,498
Cassia	1	2,343	2,343	234	2,578
Jerome	4	18,113	4,528	1,811	19,924
Lincoln	2	9,045	4,523	905	9,950
Twin Falls	3	15,432	5,144	1,543	16,975
Agency Total	**11**	**$ 53,567**		**$ 5,357**	**$ 58,924**
SEICAA					
Bannock	6	23,320	3,887	2,332	25,652
Bingham	2	7,487	3,744	749	8,236
Power	3	19,959	6,653	1,996	21,954
Agency Total	**11**	**$ 50,766**		**$ 5,077**	**$ 55,842**
Total Idaho Homes	**147**	**$ 849,650**		**$ 84,965**	**$ 934,615**
Non-Profit Buildings					
Total Non-Profit Buildings	**0**	**$ 0**	**$ 0**	**$ 0**	**$ 0**
Oregon Homes					
CCNO—Baker	0	0	0	0	0
Agency Total	**0**	**0**	**0**	**$ 0**	**$ 0**
CINA—Malheur	0	0	0	0	0
Agency Total	**0**	**0**	**0**	**$ 0**	**$ 0**
Total Oregon Homes	**0**	**0**	**0**	**$ 0**	**$ 0**
Total Program	**147**	**$ 849,650**		**$ 84,965**	**$ 934,615**

Note: Dollars are rounded.

The base funding for Idaho CAP agencies is $1,212,534 annually, which does not include carry over 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 each 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 in the 2022 agreement was $6,000. In 2022, Idaho CAP agencies had a combined average cost per home weatherized of $5,780.

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 2022 was $578. Not included in this report's tables are additional Idaho Power staff labor, marketing, and support costs for the WAQC program totaling just over $67,400 for 2022. 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 2022, $870,985 in unspent funds from 2021 were made available for expenditures in Idaho. Table 14 details the base funding and available funds from 2021, and the total amount of 2022 spending.

Table 14. WAQC base funding and funds made available in 2022

Agency	2022 Base	Available Funds from 2021	Total 2022 Allotment	2022 Spending
Idaho				
EICAP	$ 12,788.00	$ 25,576.00	$ 38,364.00	$ 38,364.00
EL ADA	568,479.00	87,969.13	656,448.13	593,957.27
Metro Community Services	302,259.00	217,540.54	519,799.54	187,527.15
SCCAP	167,405.00	217,334.22	384,739.22	58,924.24
SEICAA	111,603.00	193,174.13	304,777.13	55,842.06
Non-profit buildings	50,000.00	129,391.44	179,391.44	0
Idaho Total	**$ 1,212,534.00**	**$ 870,985.46**	**$ 2,083,519.46**	**$ 934,614.72**
Oregon				
CCNO	$ 6,750.00	$ 3,375.00	$ 10,125.00	$ 0
CINA	38,250.00	19,125.00	57,375.00	0
Oregon Total	**$ 45,000.00**	**$ 22,500.00**	**$ 67,500.00**	**$ 0**

Because of supply chain issues and labor shortages, various weatherization department's production schedules were lower than normal, and less Idaho Power funding was spent in 2022. Unspent funding will be carried over to 2023.

Weatherization Measures Installed

Table 15 details home counts for which Idaho Power paid all or a portion of each measure's cost during 2022. 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, like WAPs 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 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 (IAQ). 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 and 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 15. WAQC summary of measures installed in 2022

	Counts	Production Costs
Idaho Homes		
Audit	90	$ 10,242
Ceiling Insulation	29	28,888
LED lightbulbs	22	901
Doors	60	50,133
Ducts	14	7,708
Floor Insulation	24	32,126
Furnace Repair	4	3,015
HVAC Replacement	119	558,891
Health and Safety	17	12,815
Infiltration	85	12,957
Other	0	0
Pipes	7	760
Vents	4	482
Wall Insulation	2	563
Water Heater	4	3,726
Windows	70	126,443
Total Idaho Homes		**$ 849,650**

	Counts	Production Costs
Oregon Homes	0	0
Total Oregon Homes	**0**	**0**
Idaho Non-Profits	0	0
Total Idaho Non-Profit Measures	**0**	**$ 0**

Note: Dollars are rounded.

Re-Weatherization

Idaho Power identified a large increase in carry over funds to CAP agencies that had occurred due to a combination of COVID-19 in-home activity restrictions, supply chain limitations and labor shortages limiting the number of homes CAP agencies weatherized. In May 2022, with support from EEAG, Idaho Power filed a proposal (IPC-E-22-15) with the IPUC designed to address the increase by expanding eligibility for weatherization to include homes that had been weatherized within the last rolling 14-year period but that had not received HVAC upgrades. Because these homes are not eligible to receive federal funding for re-weatherization within a rolling 14-year period based on DOE guidelines, Idaho Power's proposal was to fund HVAC upgrades at 100% of the cost for these jobs. In November 2022, the IPUC approved the company's application in Order No. 35583. No homes in this category were completed before the end of the year.

Marketing Activities

Information about WAQC is available in a brochure (English and Spanish) and on the Income Qualified Customers page of Idaho Power's website. Idaho Power regional energy advisors and EOEAs promote WAQC when working directly with customers in their communities, at fairs, senior centers, and during other presentations in their regions. The CAP agencies also promote the program through their outreach activities.

Cost-Effectiveness

In 2022, WAQC program cost-effectiveness was 0.17 from the UCT perspective and 0.32 from the TRC perspective.

The savings values were updated in 2020 based on a billing analysis of program participants conducted by a third party; there were no changes to the values used for reporting from 2020 to 2022. Idaho Power plans to update this billing analysis in 2023.

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 tool to conduct the initial audit of the home. The EA5 tool is used to compare 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 tool to pre-screen projects ensures each weatherization project will result in energy savings.

The 2022 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

Finally, the cost-effectiveness calculation removes the impacts of any accruals and reversals associated with unspent dollars carried over into the following year. In 2022, the amount carried over into 2023 was $277,919. By leaving this amount in the cost-effectiveness calculation, it would overstate expenses in 2022 while the subsequent reversal would understate expenses in 2023. Idaho Power will continue to work with EEAG, as well as the weatherization managers who oversee the weatherization work, to discuss ways to improve the program. For further details on the overall program cost-effectiveness assumptions, see *Supplement 1: Cost-Effectiveness*.

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 educational materials for distribution to customers during home visits. Any customers whose homes are selected for the company's post-weatherization home verification receive additional information and can ask the home verifiers more questions.

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 132 of 147 households weatherized by the program in 2022. Some highlights include the following:

- Over 48% of respondents learned of the program from a friend or relative, and almost 17% learned of the program from an agency flyer. Over 14% learned of the program from the Idaho Power website.
- Over 48% of the respondents reported their primary reason for participating in the weatherization program was to reduce utility bills, almost 20% wanted to improve the comfort of their home, and almost 18% had concerns about their existing furnace.
- Over 23% reported they learned how air leaks affect energy usage, and almost 23% indicated they learned how to use energy wisely during the weatherization process.
- Over 15% of respondents said they learned how to program the new thermostat. Most respondents (over 98%) reported they were likely to change habits to save energy, and over 99% reported they have shared all the information about energy use with members of their household.
- Over 92% of the respondents reported they think the weatherization they received will significantly affect the comfort of their home, and almost all (99.12%) said they were "very satisfied" with the program.
- Over 19% of the respondents reported the habits they were most likely to change to save energy was turning the thermostat down in winter and up in the summer. Turning off lights when not in use was reported by over 19% of the respondents, and washing full loads of clothes was reported by over 15% 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*.

2023 Plans

In 2023, Idaho Power will continue to provide financial assistance to CAP agencies while exploring changes to improve program delivery. The company will also continue to provide the most benefit possible to special-needs customers while working with Idaho and Oregon WAP personnel. Since the retirement of the Idaho state WAP energy audit tool (EA5) in late 2022, CAP agency personnel will invoice Idaho Power with a new job cost calculator starting in 2023. The job cost calculator will be filled with information from the new state audit tool, ECOS.

Idaho Power plans to continue to verify approximately 5% of the homes weatherized under the WAQC program via home-verification companies and the Idaho and Oregon state monitoring process.

In 2023, 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. The company will continue to work with CAPAI, CAP agencies, and IDHW to develop recommendations and ideas to help improve the program for customers with special needs.

In Idaho during 2023, Idaho Power expects to contribute the base amount plus available funds from 2022 of just under $1,148,905 to total $2,361,439 in weatherization measures and agency administration fees. Of this amount, approximately $229,391 will be provided in the non-profit pooled fund to weatherize buildings housing non-profit agencies that primarily serve qualified customers in Idaho, with an allowance for annual unused non-profit funds to be used toward additional residential weatherization projects.

The newly approved re-weatherization option will be implemented in 2023. A list of customers that received weatherization within a prior 14-year rolling period but did not receive HVAC system replacements are being provided to weatherization managers. From these lists, weatherization managers will contact customers and work with HVAC contractors to determine whether HVAC upgrades are warranted and identify the type of system that would work best in the qualified home. Based on Idaho state WAP guidelines, the HVAC contractor may replace the HVAC system of the previously weatherized home and have the completed home inspected by the entity that issues the permit. Re-weatherization jobs will be invoiced to Idaho Power separately from regular WAQC jobs and will be paid with funds from each CAP Agency's individual portion of the annual WAQC amount which includes carry over of unused funds from previous years. Re-weatherized homes will be reported in the company's annual DSM report as a portion of the individual WAQC report.

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

Weatherization Solutions for Eligible Customers

	2022	2021
Participation and Savings		
Participants (homes)	27	7
Energy Savings (kWh)	48,233	12,591
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	$198,198	$54,793
Oregon Energy Efficiency Rider	$0	$0
Idaho Power Funds	$7,590	$2,863
Total Program Costs—All Sources	$205,788	$57,656
Program Levelized Costs		
Utility Levelized Cost ($/kWh)	$0.307	$0.317
Total Resource Levelized Cost ($/kWh)	$0.307	$0.317
Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	0.15	0.15
Total Resource Benefit/Cost Ratio	0.23	0.28

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 program also benefits certain customers on the state weatherization waiting list. When customer income overlaps both programs, this program may offer an earlier weatherization date than state WAP, 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 eligible. 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 measures 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 that 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

Due to extended COVID-19 labor shortages, some contractors continued to experience hardships hiring and training weatherization crew members resulting in lower production numbers in 2022. Contractors weatherized 27 Idaho homes for the program: two in CAP's eastern region, 23 in CAP's south-central region, and two in Idaho Power's Capital region. Of those 27 homes weatherized, 18 were single-family, seven were manufactured homes, and two were multi-family units. Contractors reported increased costs for materials and equipment from previous years.

Two independent companies performed random verifications of weatherized homes and visited with customers about the program. In 2022, seven homes were verified and of those verifications, one job required the Contractor to return to perform minor repairs.

Marketing Activities

The program was not marketed in 2022 to allow contractors time to work through their existing waiting lists, which are a result of worker shortages, supply chain restrictions, and the high volume of WAQC applicants on regional CAP Agency waiting lists.

Cost-Effectiveness

In 2022, the Weatherization Solutions for Eligible Customers program cost-effectiveness was 0.15 from the UCT perspective and 0.23 from the TRC perspective.

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. In 2023, Idaho Power plans to conduct a billing analysis of program participants to update the savings assumptions associated with the program.

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. Program participants 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 21 of 27 households weatherized by the program in 2022. Some highlights include the following:

- Over 21% of respondents learned of the program from a friend or relative, and another almost 11% learned of the program from a letter in the mail. Several people cited learning about the program through a bill stuffer.
- Over 63% of the respondents reported their primary reason for participating in the weatherization program was to reduce utility bills, and over 21% wanted to improve the comfort of their home.
- Over 20% reported they learned how air leaks affect energy usage, and the same percentage indicated they learned how insulation affects energy usage.
- Over 19% of respondents said they learned how to use energy wisely. 100% reported they were very likely to change habits to save energy, and 100% reported they have shared all the information about energy use with members of their household.
- Over 84% of the respondents reported they think the weatherization they received will significantly affect the comfort of their home, and 100% said they were “very satisfied” with the program.
- Almost 41% of the respondents reported the habit they were most likely to change was unplugging electrical equipment when not in use, and over 9% 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 and down in the winter was reported by almost 5% of the respondents 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*.

2023 Plans

It is anticipated that program activity may be lower than normal again in 2023 due to worker shortages, supply chain restrictions, and the high volume of WAQC applicants on regional CAP Agency waiting lists.

Idaho Power will update brochures as necessary to help spread the word about the program in all communities in 2023. If needed, additional marketing for the program may include bill inserts, emails, *News Briefs*, website updates, and ads 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 may 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 for Eligible Customers services.

Commercial & Industrial Sector Overview

In 2022, Idaho Power's C&I sector consisted of 77,306 commercial, governmental, school, and small business customers. The number of customers increased by 1,284 or 1.7% versus 2021. 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 2022, the commercial sector represented 27% of Idaho Power's total retail annual electricity sales.

Industrial and special contract customers are Idaho Power's largest individual energy consumers. In 2022, there were 125 customers in this category, representing approximately 22.2% of Idaho Power's total retail annual electricity sales.

Idaho Power's C&I 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.

Table 16. Commercial/Industrial sector program summary, 2022

		Total Cost		Savings	
Program	**Participants**	**Utility**	**Resource**	**Annual Energy (kWh)**	**Peak Demand (MW)***
Demand Response					
Flex Peak Program	159 sites	$ 519,618	$ 519,618		24.5/30
Total		**$ 519,618**	**$ 519,618**		**24.5/30**
Energy Efficiency					
CIEE					
Custom Projects	106 projects	8,919,927	25,715,468	56,157,060	
Green Motors Initiative—Industrial	9 motor rewinds	0	3,424	19,851	
New Construction	88 projects	2,780,507	3,641,930	27,615,777	
Retrofits	525 projects	4,870,916	13,402,016	22,890,678	
Commercial Energy-Saving Kits	334 kits	22,770	22,770	48,758	
Small Business Direct Install	680 projects	1,345,429	1,345,429	3,228,365	
Total		**$ 17,939,548**	**$ 44,131,037**	**109,960,489**	

Notes:

See Appendix 3 for notes on methodology and column definitions.

Totals may not add up due to rounding.

* Demand response program reductions are reported with 9.7% peak loss assumption. Maximum actual demand reduction/maximum demand capacity.

Commercial and Industrial DSM Programs

C&I Energy Efficiency—Custom Projects. For projects not covered by the New Construction or Retrofits options, Custom Projects offers incentives for qualifying large, custom energy efficiency projects and energy-management measures, such as strategic energy management

(SEM) cohorts, 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 assessment and detailed assessment through this option.

C&I Energy Efficiency—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. A Professional Assistance Incentive (PAI) is available for the architect or engineer on the project through this option.

C&I Energy Efficiency—Retrofits. This option offers prescriptive incentives for energy-saving retrofits to existing equipment or facilities.

Green Motors Initiative (GMI). Under the GMI, service center personnel are trained and certified to repair and rewind motors 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.

Commercial Energy-Saving Kits. This program offers free commercial kits filled with products and tips to help businesses save energy. The commercial kit is assembled and delivered directly to Idaho Power's business customers by a third-party vendor.

Flex Peak Program. A demand response program that pays an incentive to C&I customers who voluntarily reduce energy use during periods of high energy demand or for other system needs.

Small Business Direct Install (SBDI). SBDI targets 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 less than 25,000 kWh annually. SBDI is offered to eligible customers in a strategic geo-targeted approach.

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

Marketing

In 2022, Idaho Power continued to market the programs listed above, targeting the following customers: commercial, industrial, government, schools, small businesses, architects, engineers, and other design professionals.

Bill Inserts

A bill insert highlighting how Idaho Power's incentives can save customers money was included in 33,030 business customer bills in March, and a version of the insert was included in 39,407 bills in July.

Print and Digital Advertising

In 2022, the print ads focused on promoting offered incentives and their availability to businesses of all sizes. The company also continued to promote energy efficiency with messages around safe, reliable, affordable, and clean energy in select publications.

Print ads ran in the *Idaho Business Review* in April, May, August, September, October, and November. Also, ads ran in the Building Owners and Managers Association (BOMA) membership directory and symposium 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.

Idaho Power continued using 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. These ads received 145,184 impressions and 18,086 clicks.

Newsletters

Idaho Power produces a monthly newsletter called *Connections* that is distributed to all customers and covers a variety of topics. The February issue was dedicated to small-business-related energy efficiency topics, including the Zeppole energy efficiency story, energy-saving resources for small businesses, and the impact small businesses have at Idaho Power.

Idaho Power produces and distributes *Energy@Work*, a quarterly newsletter about Idaho Power company information and energy efficiency topics for business customers. In 2022, newsletters were delivered electronically.

- The spring issue was sent to 16,557 customers in March. The issue focused on the demand response program changes and energy efficiency incentives that benefited customers in Blackfoot and Sun Valley.
- The summer issue, sent to 16,995 customers in June, focused on celebrating dairy month, City of Boise and Lamb Weston receiving an incentive for their energy efficiency projects, and 2022 training opportunities.
- The fall issue was sent to 17,407 customers in September. The issue included a thank you to participants in the Flex Peak demand response program, an article about providing businesses with reliable and affordable energy, and information about the industrial Wastewater Energy Cohort and commercial ESKs.
- The winter issue was sent to 17,690 customers in December. The issue included articles about Idaho Power's mobile app that helps small businesses, Idaho Power support for Agropur's energy-saving projects, and workshops for school cohort participants.

Airport Advertising

To reach business customers, Idaho Power continued to display two backlit ads throughout the airport in 2022. The ad promotes how Idaho Power helps power businesses and is displayed in the main concourse walkway for increased visibility. Additionally, an ad on alternating airport display boards highlighted the company's clean energy goal—Clean Today. Cleaner Tomorrow.®—and the role energy efficiency plays in achieving that goal.

Radio

Idaho Power sponsored messages on public radio stations in Boise, Twin Falls, and Pocatello from August through October. The company ran a total of 402 messages in Boise and Twin Falls, and 786 messages in Pocatello.

Social Media

Idaho Power continued using regular LinkedIn posts focused on energy-saving tips, program details, incentives, and training opportunities. When appropriate, these messages were also shared on Idaho Power's Facebook and Twitter pages.

Public Relations

Idaho Power provides PR 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 PR opportunities by creating certificates for display within their buildings and speaking at press events, if requested.

These opportunities were available in 2022, after years of postponement due to the pandemic. Idaho Power produced checks and supported PR efforts for several companies, including City of Blackfoot, City of Ketchum, Micron, Lamb Weston, Power County Hospital, City of Twin Falls, Kuna Joint School District, Materne, Agropur, Ford Idaho Center, and Boise School District.

Association and Event Sponsorships

Idaho Power's C&I Energy Efficiency Program typically sponsors a number of associations and events. In 2022, some of the events were back to an in-person format.

The company sponsored the BOMA Commercial Real Estate Symposium February 14–15 and placed an ad and article in the event program. During the event, a company executive was a speaker on a panel, slides were presented with key company facts that rotated on the screen before the event, and Idaho Power had a booth with materials promoting energy efficiency. Takeaway brochures were placed at each table.

Idaho Power remained a sponsor of the Idaho Business Review's Top Projects Awards held in October in Boise. The company logo was used throughout the event, an Idaho Power employee

spoke during the event as a long-standing judge, and company materials were placed at the tables.

Idaho Power sponsored the Edison Electric Institute (EEI) National Accounts Workshop held in October in Indianapolis. Promotion included the company logo, a booth with brochures and materials, and program descriptions on the EEI online marketplace.

Customer Satisfaction

Idaho Power conducts the *Burke Customer Relationship Survey* each year. In 2022, on a scale of zero to 10, small business survey respondents rated Idaho Power 8.04 regarding offering programs to help customers save energy, and 7.82 related to providing customers with information on how to save energy and money. Twelve percent of small business 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, 85% are "very" or "somewhat" satisfied with the program.

In 2022, on a scale of zero to 10, large C&I survey respondents rated Idaho Power 9.06 regarding offering programs to help customers save energy, and 8.73 related to providing customers with information on how to save energy and money. Thirty-eight percent of large C&I respondents indicated they have participated in at least one Idaho Power energy efficiency program. Of the large C&I survey respondents who have participated in at least one Idaho Power energy efficiency program, 98% are "very" or "somewhat" satisfied with the program.

Training and Education

In 2022, 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 program satisfaction. To market this service and distribute the training schedule and resources, Idaho Power used its website, email, and the *Energy@Work* newsletter.

During each training session, a program engineer gave an overview of the C&I Energy Efficiency Program incentives available to customers.

As part of the training and education outreach activity, Idaho Power collaborated with and supported stakeholders and organizations, such as Integrated Design Lab (IDL) and the American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE). Using Idaho Power funding, IDL performed several tasks aimed at increasing the energy efficiency knowledge of architects, engineers, trade allies, and customers. Specific activities included

sponsoring a BSUG, conducting Lunch & Learn sessions at various design and engineering firms, and offering the Energy Resource Library (ERL).

Idaho Power delivered six equivalent full-time days of live, online technical training sessions in 2022 at no cost to the customers over the course of 11 days. Topics included the following:

- HVAC System Testing for Energy Efficiency
- Motors and VFDs
- Fan System Training
- Chilled Water System and Cooling Towers
- Energy Management Systems
- Compressed Air Training

The level of participation in 2022 remained high, with 216 individuals signing up and 150 attending the technical sessions. Due to the virtual nature of the course delivery, in some cases there were multiple attendees at a single login location. Customer feedback indicated the average satisfaction level was 87%. Idaho Power's average cost to deliver the technical trainings in 2022 was approximately $4,567 per class. Idaho Power surveyed customers to obtain feedback on the training program. After reviewing the results of the survey, Idaho Power plans to implement suggestions to continue providing valuable training to meet customers' needs.

Additionally, Idaho Power offered four live, online technical training sessions to industrial wastewater customers, and extended invitations to those outside of the cohort participants. Topics included the following:

- Water Energy Basics
- Wastewater Typical No-/Low-Cost Opportunities
- Pumps and Efficiency
- Activated Sludge Basics

Industrial wastewater trainings were attended by 50 participants. Cohort members and other operators were invited and offered continuing education units for industrial wastewater professionals. Each course is designed to study improved operation, quality, and energy performance for different systems.

Aside from the classes listed above, Idaho Power also partnered with the NEEC to administer a Building Operator Certification Level I Course that began in November 2021 and continued through May 2022. Idaho Power sponsored 17 customers who signed up for the training and paid $900 of the $1,895 tuition cost upon completion.

Field Staff Activities

Energy efficiency opportunities continue to be an important factor for most businesses. Many of our large commercial customers have been approached to evaluate other creative solutions to manage their energy, such as installing solar coupled with batteries. The energy advisors have had many opportunities to help evaluate these solutions on behalf of customer requests and generally the least-cost option continues to be energy efficiency. Idaho Power's energy efficiency programs are designed to accommodate all possible efficiency opportunities, ranging from equipment improvements to a variety of business cohorts that offer support and ongoing training for a long-term, more sustainable approach to energy efficiency.

Idaho Power has trained friendly and engaged energy advisors in each region and while market uncertainty has slowed some projects, the energy advisors continue to support and influence participation. For a time during COVID-19, Idaho Power's energy advisors were performing most of their annual visits online or by phone. In general, the energy advisors returned to in-person site visits in 2022. They have, however, found that a combination of in-person and web meetings offers more customer flexibility. The company continued to offer online technical training to commercial building engineers, trade allies, and other stakeholders to help them be successful with the ongoing promotion of energy efficiency opportunities.

Commercial and Industrial Energy Efficiency Program

		2022	2021
Participation and Savings*			
	Participants (projects)	728	1,021
	Energy Savings (kWh)**	106,683,366	92,465,723
	Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source***			
	Idaho Energy Efficiency Rider	$16,301,140	$14,375,182
	Oregon Energy Efficiency Rider	$266,764	$742,013
	Idaho Power Funds	$3,445	$9,630
	Total Program Costs—All Sources	$16,571,349	$15,126,824
Program Levelized Costs			
	Utility Levelized Cost ($/kWh)	$0.016	$0.017
	Total Resource Levelized Cost ($/kWh)	$0.043	$0.043
Benefit/Cost Ratios			
	Utility Benefit/Cost Ratio	2.86	2.86
	Total Resource Benefit/Cost Ratio	1.33	1.46

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

**2021 total includes 20,430 kWh of energy savings from four GMI projects. 2022 total includes 19,851 kWh of energy savings from 9 GMI projects.

***2021 and 2022 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. Idaho Power has found providing facility energy assessments, customer technical training, and education services are key to encouraging customers to consider energy efficiency modifications. The 2022 activities and results not already described in the C&I Sector Overview are described below.

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 or energy management projects. Additionally, Idaho Power operates SEM cohorts under the Custom Projects option.

Incentives reduce customers' payback periods for custom modifications and promote energy-saving operations that might not otherwise be completed. The Custom Projects option also offers energy assessment services and customer training 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 provide or gather sufficient information to support the estimated energy-savings calculations, then pre-approves the project. Then, the customer moves forward with the project. In some cases, large, complex projects may take as long as two or more years to complete.

Once the project is completed, customers submit a payment application, and 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 final energy savings and the project costs are estimated.

On the larger and more complex projects, Idaho Power or a third-party consultant conducts on-site power monitoring and data verification (M&V) before and after project implementation to confirm energy savings are obtained and are within program guidelines. If changes in project scope take place, Idaho Power recalculates energy savings and incentive amounts based on the actual installed equipment and performance.

New Construction

The New Construction option enables customers in Idaho Power's Idaho and Oregon service areas to incorporate energy-efficient design features and technologies into new construction, expansion, or major remodeling projects. Initiated in 2004, the New Construction option currently offers incentives for 33 energy-saving building and design features related to efficient lighting, lighting controls, building shell, HVAC equipment, HVAC controls, variable speed drives, refrigeration, compressed air equipment, appliances, and other equipment. A complete list of the measures offered through New Construction is included in *Supplement 1: Cost-Effectiveness*. The customer may otherwise lose savings opportunities for these types of projects. The new construction and major renovation project design and construction process often encompasses multiple calendar years. In addition to the customer incentive, a PAI is available to architects and/or engineers for supporting technical aspects and documentation of a project.

Retrofits

The Retrofits option is Idaho Power's prescriptive measure option for existing facilities that offers incentives to customers in Idaho and Oregon for a defined list of energy efficiency upgrade measures. Eligible measures cover a variety of energy-saving opportunities in lighting, HVAC, building shell, food service equipment, and other commercial measures. A complete list of the measures offered through Retrofits is included in *Supplement 1: Cost-Effectiveness*.

Program Activities—Custom Projects

The Custom Projects option provides incentives for both custom capital projects and energy-management projects.

Incentive levels for custom capital projects remained the same in 2022, at $0.18 per kWh of estimated kWh savings for one year, up to 70% of the project cost.

Idaho Power provides incentives for conducting pressurized, underground water leak assessments and fixing those leaks. The program reimburses $1,000 per five miles of pipe detected for a third-party leak assessment in addition to the standard capital project incentive of $0.18 per kWh of first-year savings for repair.

The energy management incentive of $0.025 per first-year kWh saved, up to 100% of the eligible costs (added in 2020), also remained the same in 2022. Compared to typical custom capital projects, energy management projects tend to have the following:

- A shorter measure life and a much lower cost
- O&M changes that save energy without interrupting the customer's service or product
- Cost-effective energy savings from measures rooted in low-cost or no-cost O&M improvements.

Compressed air system leak repairs are eligible under the energy management incentive at $0.025 per kWh estimated to be saved in one year up to 100% of project cost. Customers can use their own instrumentation or work with one of Idaho Power's third-party consultants to identify leaks. Energy savings achieved from fixing leaks can be quantified, and project costs are calculated by factoring in the material cost to fix the leaks as well as any labor requirements.

Idaho Power funds the cost of engineering services, up to $4,500, for conducting energy scoping assessments to encourage its larger customers to adopt energy efficiency improvements. Idaho Power is currently contracted with six firms to provide scoping assessments and general energy efficiency engineering support services through 2025. Two of the firms are focused on energy modeling to support cohorts and other energy management offerings. The other four firms provide a wide array of engineering services, including scoping assessments, detailed assessments, energy modeling, and various SEM programs.

The Custom Projects option had a successful year with a total of 106 completed projects (5 of which were in Oregon) and achieved energy savings of 56,157 MWh (Table 16), which is a 5% increase compared to 2021. COVID-19 impacts continued to present challenges for projects in 2022, and many projects were slowed down by materials and labor issues.

Idaho Power also received 108 new applications in 2022, representing a potential of 64,775 MWh of savings on future projects.

In 2022, Idaho Power contractors completed 26 scoping assessments on behalf of Idaho Power customers. These assessments identified over 28,984 MWh of savings potential and will be used to promote future projects.

Table 17. Custom Projects annual energy savings by primary option measure, 2022

Option Summary by Measure	Number of Projects	kWh Saved
Compressed Air	11	8,111,646
Controls	1	152,413
Energy Management	19	12,323,305
Fans	1	2,861,994
HVAC	8	4,049,007
Motors	3	207,161
Other	9	6,196,494
Pump	5	1,706,036
Refrigeration	26	8,070,096
VFD	23	12,478,908
Total*	**106**	**56,157,060**

*Does not include GMI project counts and savings.

Custom Projects engineers and the key account energy advisors visited large C&I customers to conduct initial facility walk-throughs, commercial/industrial efficiency program informational sessions, and training on specific technical energy-saving opportunities. Virtual/remote capabilities were implemented when health or safety restrictions were necessary. Idaho Power also provided sponsorship for the 2022 ASHRAE Technical Conference that focused on Integrating with Nature and had numerous energy efficiency related presentations. Custom Projects engineers gave presentations on Idaho Power programs and offerings at the Cohort for Schools Final Workshop, the Treasure Valley Water Summit, and two presentations at Wastewater Cohort Workshops (virtual).

The Streamlined Custom Efficiency (SCE) offering works to keep vendor engagement high, targeting projects that are typically too small to participate under the Custom Projects option. Currently, the SCE offering provides custom incentives for refrigeration controllers for walk-in coolers, process related VFDs, and other small, vendor-based projects that do not qualify for prescriptive incentives.

Idaho Power contracted with a third party to manage SCE data collection and analysis for each project. In 2022, the SCE offering processed 18 projects totaling 6,365 MWh of savings and $667,555 in incentives.

Cohorts

Idaho Power has SEM cohorts to engage with customers in group settings, allowing interaction and economies of scale in working with multiple customers on SEM.

The Water Supply Optimization Cohort (WSOC), Wastewater Energy Efficiency Cohort (WWEEC), and the Continuous Energy Improvement (CEI) Cohort for Schools program offerings are driving a significant number of new projects in addition to increasing vendor engagement from the SCE offering while providing high levels of customer satisfaction. Reported cohort savings correlate to energy management incentives; any capital projects promoted or identified in SEM are reported and incentivized through the Custom Projects, New Construction or Retrofits options of the C&I Program, not as a cohort savings number.

Cohorts are structured to offer three phases of support.

1. The active phase, typically the first two years of engagement with strong consultant support, includes energy team development, energy policy development, energy model creation, training and report-out workshops, energy champion and team calls, and general energy awareness.
2. The maintaining phase includes medium consultant support and is typically years three through five or six. This phase includes consultant maintenance of facility energy models, monthly energy champion calls, report-out workshops, and ongoing general development.
3. The sustaining phase is typically beyond year five or six where the participants manage activities on their own including maintenance of energy models and ongoing focus on energy-saving activities with little consultant support. Participants in this phase have the option to participate in report-out workshops but cohort-related energy savings are no longer claimed, and consultant support is minimal.

Water Supply Optimization Cohort (WSOC). The WSOC began in January 2016. The goal of the cohort is to equip water professionals with the skills necessary to independently identify and implement energy efficiency opportunities that produce long-term energy and cost savings. The Eastern Idaho Water Cohort (EIWC) began in January 2018 with the goal to offer the WSOC to the eastern part of Idaho Power's service area. These two cohorts are collectively represented under the WSOC offering, despite EIWC being two years junior to WSOC in terms of program life.

Sixth-year incentives (WSOC) and savings totaled $3,723 and 238,929 kWh per year. For the participants in EIWC, fourth-year incentives and savings totaled $1,921 and 488,318 kWh per year. Combined, incentives and savings totaled $5,644 and 727,247 kWh per year.

Idaho Power continued the cohort for 10 of the original 15 WSOC participants and both EIWC participants will be continuing in the offering. Two participants are in the maintaining phase and 10 are in the sustaining phase. Idaho Power's contractor periodically contacted participants to check on project progress and opportunities and to address energy model data updates.

Wastewater Energy Efficiency Cohort (WWEEC). 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 increased the duration of WWEEC to further engage customers. Five of the 11 original participants are now in the maintaining phase and six participants are in the sustaining phase. In 2021, one facility re-engaged with the cohort after major renovations; the facility was re-baselined and is currently in the active phase.

In 2022 (the sixth year), the consultant contacted the participants to check on progress, discuss opportunities, and 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 fifth program year of the Cohort for Schools ran from June 2021 through May 2022 to coincide with the standard school calendar; reported energy savings are based on the program year.

Seven school districts participated in the program in 2022. Of those seven, five districts are modeling all schools in their district. Two districts added two new facilities each in this program year for a total of 46 facilities that were engaged with the offering during the 2022 program year. The cohort is implemented by a third-party consultant that provided final savings reports for each school district, which totaled 7,380,223 kWh and incentive checks were provided totaling $129,398 for 2022.

Activities in 2022 included managing a register of energy efficiency opportunities for each facility detailing low- and no-cost opportunities to reduce energy consumption. The consultant worked with each participant to complete as many identified opportunities as possible. Afterward, the consultant checked in monthly by phone to review opportunity register items and to discuss current activities. Idaho Power provided program and incentive information, both in hard copy and electronically, along with many other energy-saving resources pertinent to school facilities.

A final program year workshop was held on September 15, 2022, where results were reported for the program year. Districts shared successes, lessons learned, and other details pertinent to their energy-saving journeys.

The 2022 to 2023 program year activities will continue until May 31, 2023. Idaho Power will review final M&V reports to establish energy savings and eligible costs for the program year activities and will distribute the corresponding incentives to participating school districts.

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 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 $2.00 per horsepower (hp) for each National Electrical Manufacturers Association (NEMA)-rated motor up to 5,000 hp that receives 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 2022, a total of nine C&I customers' motors were rewound, and the savings for the GMI was 19,851 kWh.

Program Activities—New Construction

In 2022, a total of 88 projects were completed, resulting in 27,615,777 kWh of energy savings in Idaho and Oregon. New Construction had an 8% reduction in number of projects and a 57% increase in total savings compared to 2021. The C&I construction industry was extremely active in Idaho Power's service area in 2022, although the industry is experiencing labor shortages and supply chain issues that have delayed, slowed, and complicated some projects.

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 strives to keep the New Construction option consistent by making changes approximately every other year. The program offerings were last updated on June 15, 2021.

In addition to the customer incentive, a PAI is available to architects and/or engineers for supporting technical aspects and documentation of a project. The PAI is equal to 20% of the participant's total incentive with a maximum allowed of $5,000 per application.

The PAI increases the engagement with architects and engineers and is most beneficial to small and medium businesses as they prepare project documentation. These customers typically do not have staff with a technical background in construction, which makes completing applications and submitting documentation a challenge.

In 2022, a total of 43 projects, or 49% of the projects paid, received the PAI compared to 40 projects, or 42% of the total projects paid, in 2021. The PAI will continue to be offered due to positive feedback from customers, architects, and engineers.

In 2022, Idaho Power collaborated with IDL and revised the on-site verification process. The new process ensures that the final project documentation aligns with field installation

before project payment. On-site project verification occurred on eight of the 88 projects, 9% of the total projects completed.

The New Construction engineers and Idaho Power energy advisors continued outreach to customers, professionals, and professional organizations throughout 2022. Meetings were held with specific customers or professionals to build relationships with the local design community and to discuss Idaho Power's New Construction option as well as the overall C&I Energy Efficiency Program. An Idaho Power representative attended eight Lunch and Learn sessions provided by the IDL to provide energy efficiency program information to attendees. Additionally, Idaho Power EOEAs and New Construction engineers presented program information to one professional organization, two Pocatello design firms, two Twin Fall design firms and three Boise area design firms with their clients. Energy efficiency program information was also hand delivered to five Pocatello design firms. Idaho Power energy advisors also provided energy efficiency program information during customer visits and calls.

See *Supplement 2: Evaluation* for the complete IDL report.

Program Activities—Retrofits

The Retrofits option achieved 22,890,678 kWh of energy savings in 2022, representing 525 projects. Lighting retrofits comprised most of the energy savings and project count.

Idaho Power offered two in-person technical lighting training classes for trade allies and large customers on the topic of networked/luminaire level lighting controls. The company received feedback that while there was interest in attending the training, many trade allies were too busy to do so. Retrofits staff also provided virtual online training to trade allies, as requested.

The company posted a lighting tool tutorial to the Retrofits website for trade allies and customers wanting to take part in a self-directed learning opportunity on how to use the lighting tool.

Idaho Power continued its contracts with various consultants to provide ongoing program support for lighting and non-lighting reviews and inspections, as well as trade ally outreach.

Marketing Activities

Idaho Power continued to primarily market the C&I Energy Efficiency Program as a single offering to businesses.

See the C&I Sector Overview for the company's additional efforts to market the C&I Energy Efficiency Program. Below are the option-specific marketing efforts for 2022.

Custom Projects

In addition to program-level marketing activities, Idaho Power created multiple brochures including a Custom Projects program overview, Industrial Wastewater Cohort brochure, and Water Leaks brochure. Idaho Power continued to present large-format checks to interested

Custom Projects participants and publicized these events to local media, when applicable. Several of these were facilitated by key account energy advisors in 2022.

In 2022, Idaho Power continued to promote GMI as part of the C&I Energy Efficiency Program marketing efforts.

New Construction

The company continued to place banners on select construction sites highlighting that the facility is being built or enhanced with energy efficiency in mind. A banner remained at St. Luke's McCall Medical Center throughout 2022.

Retrofits

The company placed two pop-up ads on My Account: one in February that resulted in 4,693 views and 52 clicks and the second in May that resulted in 7,096 views and 42 clicks from business customers.

The company placed an ad twice in the Pocatello Chamber of Commerce newsletter in March and ran a marquee on their website. In April, the company mailed 1,420 letters promoting Retrofits to Boise Metro Chamber of Commerce members. Periodically, the company sent out emails promoting the lighting incentives. The company's customer solutions advisors then followed up by making personal phone calls to customers who received the email.

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 assessment, or engineering M&V services are available under the Custom Projects option.

The UCT and TRC ratios for the program are 2.88 and 1.12, respectively. Non-energy impacts were applied in 2022 based on an estimated per-kWh value by C&I end-uses. These values were provided by a third-party as part of the 2019 impact evaluation of the New Construction and Retrofits options. 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. When precise measurements are unavailable, savings are calculated based on industry-standard assumptions. 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 and the International Energy Conservation Code (IECC) to calculate the savings based on an assumed baseline (i.e., 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.

The UCT and TRC ratios for the program are 4.25 and 3.64, respectively. Non-energy impacts were applied in 2022 based on an estimated per-kWh value by C&I end-uses. These values were provided by a third party as part of the 2019 impact evaluation of the New Construction and Retrofits options. The increase in the program's overall cost-effectiveness is largely due to the increase in savings between 2021 and 2022. Finally, if the amount incurred for the 2022 evaluation was removed from the program's cost-effectiveness, the UCT would be 4.34, while the TRC would be 3.70.

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

Retrofits

For 2022, Idaho Power used most of the same savings and assumptions as were used after the program changes in 2021 for the Retrofits option. For all lighting measures, Idaho Power uses a Lighting Tool developed by a third party. An initial analysis is conducted to see if the lighting measures shown in the tool are 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 *Technical Reference Manual* (TRM) or the RTF are used to calculate the cost-effectiveness.

The UCT and TRC ratios for the program are 2.01 and 1.11, respectively. Non-energy impacts were applied in 2022 based on an estimated per-kWh value by C&I end-uses. These values were provided by a third-party as part of the 2019 impact evaluation of the New Construction and Retrofits options. Finally, if the amount incurred for the 2022 evaluation was removed from the program's cost-effectiveness, the UCT would be 2.03, while the TRC would be 1.11.

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

Customer Satisfaction

In 2022, a survey was sent to Retrofits customers who had a lighting project installed by a contractor to evaluate the customers' satisfaction level for the contractors listed on the website. Survey questions gathered information about how customers learned of the program and their satisfaction with the program, contractor, and equipment.

A survey invitation was sent to 243 program participants in 2022. Idaho Power received survey results from 76 respondents. Some highlights include the following:

- More than 63% of respondents learned of the program from a contractor, and more than 14% learned of the program from an Idaho Power employee.
- Nearly 83% of respondents said they were "very satisfied" with the program, and more than 14% of respondents indicated they were "somewhat satisfied."
- More than 89% of respondents said they were "very satisfied" with the contractor they hired to install their equipment, and more than 9% of respondents indicated they were "somewhat satisfied."
- More than 89% of respondents said they were "very satisfied" with the equipment installed, and nearly 8% of respondents said they were "somewhat satisfied."

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

Evaluations

The Custom Projects option process and impact evaluation was done in 2021, but due to the timing of receiving the report all recommendations were not addressed in the *Demand-Side Management 2021 Annual Report*. The evaluation found a successfully run program that has mitigated many of the risks associated with custom energy efficiency programs. The evaluation team identified only minor adjustments to claimed savings and calculated a realization rate of 99.8%. The process evaluation recommended three items that were addressed in 2022:

Update the commercial and industrial program logic model to include recent program updates. This was done to include provision for new energy management and other program details in 2022.

Add a new construction or equipment replacement check box for the program application. This was considered but not chosen for implementation given the complexity of some Custom projects and potential confusion of which box to check. A Custom Projects check box and Custom Projects information tab were added to the prescriptive New Construction preliminary application and Custom Projects engineers were made aware of the project for additional follow-up.

Continue to focus on efficient and effective communication between all parties. As COVID-19 restrictions eased, more in-person trainings and customer visits were conducted. Hybrid meetings (in-person with virtual option) were scheduled, allowing increased access and attendance for customers, staff, and stakeholders.

A complete copy of the evaluation is included in *Supplement 2: Evaluation*.

New Construction

The New Construction option process and impact evaluation was conducted in 2021 and the report was finalized in 2022. The evaluation found a successfully run program that actively engages with the marketplace on new construction projects to impact the design and construction of new C&I facilities. The program stays current with code requirements and works with individual buildings to ensure they exceed code for the appropriate design and construction period. The evaluation team found only slight adjustments to ex-ante savings claimed in the 2021 program and limited opportunities for process improvements. The evaluation team calculated a realization rate of 102.5%. Following are the recommendations from the evaluation and Idaho Power's plan for each one.

Document project worksheets at stages throughout the process. Idaho Power will incorporate this recommendation going forward.

Increase program review and feedback of the submitted code-checking software, COMcheck. Idaho Power will review and revise the lighting review checklist to incorporate this recommendation in 2023.

Document the HVAC control systems that meet code and exceed code. Idaho Power will review and revise the HVAC control review checklist to incorporate this recommendation in 2023.

Continue to expand in-person outreach and program overview training where possible. Idaho Power will continue to provide in-person outreach and program overview training in 2023. New Construction will attend Retrofit workshops in 2023 to increase the cross-training between program options.

Consider developing a consolidated contractor list across CIEE program with substantial overlap. Idaho Power CIEE program staff will develop a consolidated contractor list in 2023.

Consider a leave-behind brochure for contractors with all CIEE program offerings. Idaho Power has a CIEE leave-behind brochure for contractors, architects, and engineers. The company will review potential benefits to updating the brochure to provide enhanced clarity to the various program options available for customers; in addition, the company will review opportunities to increase brochure distribution in 2023.

The complete copy of the evaluation is included in *Supplement 2: Evaluation*.

Retrofits

The Retrofits option process and impact evaluation was conducted in 2021 and the report was finalized in 2022. The evaluation for the Retrofits option found a successfully run program that balances the use of prescriptive assumptions and values with the data collection from the project site. The program stays current with baseline requirements and the program savings calculations are accurate and well-documented. The overall realization rate for the Retrofits option is 96.4%. Following are the recommendations from the evaluation and Idaho Power's responses.

Develop the exterior lighting controls savings factors. Idaho Power will incorporate this recommendation in its lighting tool update in 2023.

Document lighting control savings for transparency to the applicant. Idaho Power will incorporate this recommendation in its lighting tool update in 2023.

Consider incorporating interactive effects into the Retrofits lighting tool. Idaho Power reviewed this recommendation and determined it will not incorporate interactive effects into the lighting tool. The Retrofits team is presently looking for ways to streamline the lighting tool to encourage increased participation in the program. Adding additional information for project submitters to address would be a barrier to participation. In addition, the company would prefer not to incur costs for programming the lighting tool to capture interactive effects.

Consider adjusting the anti-sweat heater measure to differentiate between medium- and low-temperature refrigeration. Idaho Power will incorporate this recommendation as part of the Retrofits program update in 2023.

Continue to increase in-person program overview training where possible. Idaho Power will continue to increase in-person trainings, to include holding in-person Retrofit program workshops for trade allies in 2023.

Consider developing a consolidated contractor list across CIEE programs with substantial overlap. Idaho Power CIEE program staff will develop a consolidated contractor list in 2023.

Consider a leave-behind brochure for contractors with all CIEE programs. Idaho Power has a C&I Energy Efficiency Program leave-behind brochure for trade allies. The company will review potential opportunities to update the existing brochure to provide enhanced clarity to the various program options available for customers; in addition, the company will review opportunities to increase brochure distribution in 2023.

The complete copy of the evaluation is included in *Supplement 2: Evaluation*.

2023 Plans

In 2023, the three options will continue to be marketed as part of Idaho Power's C&I Energy Efficiency Program. Below are specific program option strategies.

Custom Projects

In 2023, the company plans to expand deployment of the commercial energy-savings tool, Find n' Fix, which, in conjunction with engineering services, helps identify and quantify energy savings opportunities for commercial customers. Also, the compressed air leak detection and repair offering that is available to larger customers, like the water-leak measure launched in 2020, will be marketed and expanded in 2023.

Activities and coaching will continue for the school, water, and wastewater cohort participants.

The Industrial Wastewater Energy Cohort officially began in September of 2022. This cohort focuses on a more technical approach to energy savings than the other water and wastewater cohorts. Recruitment and energy scans to identify electrical energy saving opportunities have been completed and active savings have begun. This cohort offers technical trainings that are extended to non-cohort participants to continue the engagement of customers in the Idaho Power programs.

Idaho Power is currently in the process of contracting for a new cohort called the Campus Cohort for Energy Efficiency. This cohort will be structured similarly to the existing cohorts but will focus on customers who have facilities with multiple buildings on a site, such as but not limited to universities, government installations, hospitals, and prisons.

Idaho Power will continue to provide the following:

- In-person or virtual site visits and energy scoping assessments by Custom Projects engineers to identify projects and energy savings opportunities.
- Funding for detailed energy assessments for larger, complex projects. Virtual assessments can also be offered in many cases.
- M&V of larger, complex projects. Virtual M&V can also be used as conditions allow.
- Technical training for customers, presented virtually or in person as conditions allow.

New Construction

In 2023, Idaho Power will identify and incorporate best practices and recommendations identified in the impact and process evaluation completed in 2022.

As in past years, Idaho Power will continue to build relationships in 2023 by sponsoring technical training through the IDL to address the energy efficiency education needs of design professionals throughout Idaho Power's service area.

Retrofits

Idaho Power will address the third-party impact and process evaluation recommendations as outlined above.

Commercial Energy-Saving Kits

	2022	2021
Participation and Savings		
Participants (kits)	334	906
Energy Savings (kWh)	48,758	296,751
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	$21,604	$71,501
Oregon Energy Efficiency Rider	$1,140	$3,117
Idaho Power Funds	$25	$0
Total Program Costs—All Sources	$22,770	$74,617
Program Levelized Costs		
Utility Levelized Cost ($/kWh)	$0.059	$0.029
Total Resource Levelized Cost ($/kWh)	$0.059	$0.029
Benefit/Cost Ratios		
Utility Benefit/Cost Ratio	0.78	1.64
Total Resource Benefit/Cost Ratio	0.87	2.00

Description

The Commercial Energy-Saving Kit (Commercial ESK) program is offered to commercial business customers in Idaho and Oregon. One kit was offered to business customers who had not previously received a commercial kit. The kit included: two 9-watt LED A lamps, two 8-watt LED BR30 lamps, a bathroom aerator, an exit sign retrofit, and a kitchen aerator. Idaho Power used a third-party vendor for kit assembly and mailing. The vendor sent the kit directly to the customer on the company's behalf.

Figure 22. Commercial Energy-Saving Kit

Program Activities

Idaho Power contracted with a new commercial kit vendor mid-year in 2022. The company streamlined the kit offer to one kit type, which included seven measures.

Table 18. Number of kits distributed per state and associated energy savings

State	Total Distributed	kWh Savings
Idaho*	317	46,237
Oregon	17	2,520

* Includes 10 restaurant, 1 retail, and 12 office kits distributed from remaining inventory.

Marketing Activities

In 2022, Idaho Power promoted the commercial kits using LinkedIn posts in November. Additionally, the kits were promoted in September and December in the quarterly newsletter to business customers, *Energy@Work*.

The company displayed a pop-up ad to small business customers who logged into My Account in October, November, and December, resulting in 298 users clicking on the ad. Customers signing into My Account clicked on the pop-up ad and requested a kit through the vendor's online order form.

In November, the company sent an email to 8,651 business customers. This tactic resulted in a 46.55% open rate and 118 kits were ordered that day. Idaho Power's customer solutions advisors (CSA) also promoted the commercial kit during their calls with business customers and offered to sign up customers who requested the kit during the call.

Cost-Effectiveness

Because no deemed savings values exist for the Commercial ESK program, Idaho Power made several assumptions. When the offering launched in mid-2018, the installation rates of the items in the kit were unknown. Idaho Power estimated the installation rates based on professional judgement. Idaho Power updated this assumption in 2021 based on the follow-up survey sent to customers in 2020. In 2022, evaluators surveyed 2021 participants and updated the installation rates for each item.

For the LEDs and aerators, savings vary by kit type based on the average annual hours of use (HOU) and annual gallons of water used by business type. In 2022, energy advisors distributed 10 restaurant kits, 1 retail kit, and 12 office kits that were remaining in inventory. Based on the updated savings assumptions from the evaluation, restaurant, retail, and office kits provide approximately 192, 208, and 56 kWh of annual savings, respectively.

At the November 2021 EEAG meeting, Idaho Power shared the cost-effectiveness challenges for the kit program and proposed four possible options. With direction from EEAG, it was decided to simplify the offering to one kit, continue sending the kit per customer request, and track the

business type ordering the kit. Of the 311 simplified kits distributed in 2022, 14 were distributed to restaurants, 38 were distributed to retail businesses, and 259 were distributed to offices. Based on the savings developed by the evaluators using the installation rates from the evaluation, the savings ranged from 83 kWh (non-electric office) to 500 kWh (electric restaurant).

As further discussed with EEAG in 2022, the offering continues to face cost-effectiveness challenges. When the Energy Independence and Security Act is fully implemented in July 2023, the evaluators recommended removal of LED bulbs from the kit offering going forward. Due to the declining savings opportunities and rising costs, the kits will not be cost-effective going forward.

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

Customer Satisfaction

In 2022, the third-party evaluator surveyed customers as part of the impact and process evaluation of the Commercial ESKs. The purpose of the surveys was to understand the installation rates of the items included in the kits as well as participants' overall satisfaction with the offering.

The majority of respondents were "satisfied" or "very satisfied" with the program (88.4%) and about half of respondents were interested in learning more about other energy efficiency opportunities through Idaho Power (51.6%). While the majority of respondents who remembered receiving a kit indicated they installed at least one measure from the kit (95.6%), Idaho Power plans to continue to survey participants, as certain items such as the LED retrofit kits for exit signs and faucet aerators had low installation rates, which impacted the savings reported for the items. Idaho Power plans to continue to survey customers to update the assumptions around installation rates.

Survey results are included in the impact and process evaluation report available in *Supplement 2: Evaluation.*

Evaluations

In 2022, Idaho Power contracted a third party to conduct process and impact evaluations for the Commercial ESK program. Following are the recommendations of the evaluations and Idaho Power's response to each.

To more accurately estimate verified savings, the evaluators recommend Idaho Power continue to update their in-service rate (ISR) assumptions when calculating claimed savings for future program years. Idaho Power will continue to update the ISR assumptions.

The evaluators recommend Idaho Power continue to update their electric water heat saturation assumptions when calculating claimed savings for future program years. Idaho Power will monitor participating customer feedback about electrical water heat use and update program assumptions, as needed.

The evaluators recommend Idaho Power include space heating and space cooling interactive effects when calculating claimed savings for lighting measures in the future. Idaho Power has reviewed this recommendation and will not implement the recommendation because the company would have to put in place a way of getting information from the customer on heating and cooling system types; as the company is not certain how long it will continue the program, it prefers not to adjust any processes at this time.

The evaluators recommend Idaho Power alter assumed hours of use for retail applications to 4,533 hours per year. Idaho Power will update the retail hours of use per the recommendation.

The evaluators recommend that Idaho Power plan to remove LED measures from the Commercial Energy-Saving Kits Program. The resulting verified savings for the measure will be claimable until July 1, 2023. After this date, third party evaluators must assume that all unqualified lighting measures have been replaced by LED measures due to burnout. Idaho Power will discontinue offering LED measures in a commercial kit by July 1, 2023.

The evaluators recommend that Idaho Power provide more opportunities for participating customers to learn about other offerings Idaho Power provides. Idaho Power evaluates its marketing efforts to business customers to learn about the various available energy efficiency programs on a regular basis. The company will take this recommendation under advisement as it pursues marketing efforts in 2023.

The evaluators recommend Idaho Power staff reconsider the inclusion of retrofit exit signs and low-flow aerators altogether for kits moving forward. Although these measures can garner energy savings, they are not popular among kit recipients and thus may not be cost-effective measures to provide consumers. Rather than provide unwanted measures, such as retrofit exit signs, pre-rinse spray valves, and low-flow aerators, Idaho Power staff should consider providing other measures such as occupancy sensors, as customers indicate a desire for such applications. Idaho Power included low-flow aerators and retrofit exit signs in its most recent single kit offering; however, the company scaled back to one of each. Idaho Power plans to consult its commercial kit vendor to identify any additional measures that could be cost-effectively viable to install in a future commercial kit.

The complete impact and process evaluation report can be found in *Supplement 2: Evaluation.*

2023 Plans

In 2023, Idaho Power will continue to market the program until the contract is complete. In addition, Idaho Power will send customer satisfaction surveys to program participants.

Flex Peak Program

	2022	2021
Participation and Savings		
Participants (buildings)	159	139
Energy Savings (kWh)	n/a	n/a
Demand Reduction (MW)*	24.5/30.0	30.6/36.0
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	$84,582	$101,236
Oregon Energy Efficiency Rider	$151,148	$175,121
Idaho Power Funds	$283,888	$225,617
Total Program Costs—All Sources	$519,618	$501,973
Program Levelized Costs		
Utility Levelized Cost ($/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

* Maximum actual demand reduction/maximum potential demand reduction. Demand response program reductions are reported with 9.7% peak loss assumptions.

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 C&I customers with the objective to reduce the demand on Idaho Power's system during periods of extreme peak electricity use.

Program event parameters include the following:

- June 15 to September 15 (excluding weekends and holidays)
- Up to four hours per day between 3 and 10 p.m.
- Up to 16 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 four 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 2022, 69 participants enrolled 159 sites in the program. Existing customers were automatically re-enrolled. Participants had a committed load reduction of 29.5 MW in the first week of the program and ended the season with a committed load reduction of 27.2 MW. The estimated maximum capacity of the program came from the nominated amount in the third week of the season at 30 MW.

This weekly commitment, or nomination, was comprised of all 159 sites. The maximum realization rate during the season was 86%, and the average for the seven events was 62%. 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 24.5 MW (at generation level) during the July 28 event (Table 19).

Table 19. Flex Peak Program demand response event details

Event Details	Tuesday, July 26	Thursday, July 28	Monday, August 8	Wednesday, August 17	Wednesday, August 31	Friday, September 2	Tuesday, September 6
Event time	5–9 p.m.	5–9 p.m.	5–9 p.m.	5–9 p.m.	6–10 p.m.	5–9 p.m.	5–9 p.m.
Average temperature	97.0° F	101.6° F	101.0° F	97.0° F	96.3° F	98.3° F	102.0° F
Maximum load reduction (MW)	18.7	24.5	21.1	21.1	19.2	14.4	15.6

Event performance and realization rates for the 2022 season were lower than prior years in the program. Impacts from COVID-19 with respect to supply chain and production issues appears to still be playing a role in participants' ability to reduce load.

Marketing Activities

New program parameters per IPUC Case IPC-E-21-32 and OPUC Docket No. ADV 1355/Advice No. 21-12 (replacing the IPC-E-13-14/UM 1653 Settlement agreement) went into effect in 2022.

In 2022, the program brochures and website were updated to reflect the new program parameters. The company ran a My Account pop-up ad promoting enrollment to large commercial customers. In May, the company launched a new email and direct-mail marketing tactic to 18 national accounts in its service area. Additionally, a LinkedIn post in May promoted program enrollment, and a thank-you note to participants was posted on LinkedIn in November. The company also continued to include the Flex Peak Program in its C&I Energy Efficiency Program collateral. Additional details can be found in the C&I Sector Overview.

Cost-Effectiveness

Idaho Power determines cost-effectiveness for its demand response program using the approved method for valuing demand response under IPUC Order No. 35336 and the OPUC's approval on February 8, 2022 in Docket No. ADV 1355. Using the financial and alternate resource cost assumptions from the *2021 Integrated Resource Plan*, the defined cost-effectiveness threshold for operating Idaho Power's three demand response programs for the maximum allowable 60 hours is $82.91 per kW under the current program parameters.

The Flex Peak Program was dispatched for 28 event hours and achieved a maximum load reduction of 24.5 MW and a maximum nomination capacity of 30 MW throughout the season. The total cost of the program in 2022 was $519,618. Had the Flex Peak Program been used for the full 60 hours, the potential cost would have been approximately $700,200. Using the potential cost and the average maximum capacity results in a cost of $23.34 per kW, which shows the program was cost-effective.

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

Customer Satisfaction

In November, Idaho Power sent surveys to program participants and non-participants. The purpose of the surveys was to evaluate the motivators and barriers to participation as well as gauge customers' likelihood to participate in the program under varying program designs. Participants were asked additional questions around their overall satisfaction with the program and the ease of participation.

Idaho Power received 33 responses from the participant survey and 25 responses from the non-participant survey. Some highlights include the following:

- For participants, nearly 55% of respondents participated in the program because they wanted to earn an incentive for providing demand reduction while 27% participated because they wanted to help reduce overall electrical usage on hot summer days. For non-participants, almost 52% of the respondents did not participate in the program because they did not know about it while nearly 30% of respondents indicated it would negatively impact their business.
- Overall, 76% of participant survey respondents indicated they were "very satisfied" or "somewhat satisfied" with the Flex Peak program with 84 to 94% of respondents indicating they were "very satisfied" or "somewhat satisfied" with various components of the program including the program support from Idaho Power, post-performance data, and timeliness of receiving the incentive payment/bill credit.

- Nearly 85% of participant survey respondents indicated they are “very likely” or “somewhat likely” to participate in the program in 2023.
- Respondents were asked their likelihood to participate in the program if Idaho Power limited the number of times the program could be called each week at a reduced incentive level.
  - Under all scenarios, 42 to 48% of current participants indicated they are “very unlikely” or “somewhat unlikely” to participate in the program under the proposed hypothetical scenario options.
  - Under all scenarios, 40 to 52% of current non-participants indicated they are “very unlikely” or “somewhat unlikely” to participate in the program under the proposed hypothetical scenario options.

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

Evaluations

Idaho Power conducted an internal evaluation of the program’s potential load-reduction impacts. A copy of this report is in *Supplement 2: Evaluation*.

In 2021 Idaho Power engaged a third-party contractor to conduct an impact evaluation of the Flex Peak Program. The evaluation found the Flex Peak Program to have been operated effectively in 2021, and the method for calculating demand reductions to have been appropriately applied with only minor discrepancies, mostly related to rounding practices.

Recommendations from this evaluation are listed below, followed by Idaho Power’s response:

Use consistent rounding practices and streamline analytical approach through computer scripting and develop documentation regarding rules for handling errors, missing data, and other data validation steps. Idaho Power has developed a Statistical Analysis System (SAS) program to input all metering data and run all calculations. This was developed to make all calculations consistent, remove human error and to streamline the calculation process.

Establish data validation and quality control protocols. The developed SAS code is written to remove erroneous data and to flag errors that would affect baseline calculations for human review.

Continue to work with customers to refine their nominated load reductions. The program specialist and energy advisors continue to work with participants to identify nominations that need to be refined to reflect realistic load reductions more accurately.

2023 Plans

For the 2023 program season, Idaho Power has requested program changes from the IPUC and the OPUC. These changes will add an automatic dispatch option feature to the program that Idaho Power believes may make it easier for some customers to participate.

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

For the upcoming season, Idaho Power will continue its focus on retaining currently enrolled participants and will be using email marketing, paid search, digital display, and other tactics to boost program enrollment, with a focus on enrolling national chain stores within Idaho Power's service area. Energy assessments conducted by Idaho Power engineers or contract engineers will be offered to large customers that haven't participated in the past to help determine potential for load shed and identify specific load shed tactics and sequences that could be initiated for events. The program will also continue to be marketed along with the C&I Energy Efficiency Program.

Oregon Commercial Audits

	2022	2021
Participation and Savings		
Participants (audits)	12	3
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	$7,493	$4,401
Idaho Power Funds	$0	$0
Total Program Costs—All Sources	$7,493	$4,401
Program Levelized Costs		
Utility Levelized Cost ($/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 Oregon C&I 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 no-cost 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 an opportunity for the 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 2022, there were 12 audits completed at separate facilities for five customers. The program contractor conducted the audits, and an Idaho Power energy advisor was available to assist customers.

Marketing Activities

Idaho Power sent its annual direct-mailing to 1,557 Oregon commercial customers in December 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 Audits 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.

2023 Plans

Idaho Power does not expect to make any operational changes in 2023. The company 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.

Small Business Direct Install

		2022	2021
Participation and Savings			
	Participants (audits)	680	452
	Energy Savings (kWh)	3,228,365	2,421,842
	Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source			
	Idaho Energy Efficiency Rider	$1,317,820	$1,052,943
	Oregon Energy Efficiency Rider	$27,558	-$20,887
	Idaho Power Funds	$51	$0
	Total Program Costs—All Sources	$1,345,429	$1,032,056
Program Levelized Costs			
	Utility Levelized Cost ($/kWh)	$0.049	$0.062
	Total Resource Levelized Cost ($/kWh)	$0.049	$0.062
Benefit/Cost Ratios			
	Utility Benefit/Cost Ratio	0.95	0.99
	Total Resource Benefit/Cost Ratio	1.50	1.54

Description

Idaho Power launched the SBDI program in November 2019 targeting typically hard-to-reach, small business customers in Idaho who use less than 25,000 kWh annually. Idaho Power pays 100% of the cost to assess eligibility and install lighting measures for these customers, using a third-party contractor to operate the program. SBDI is offered to eligible customers in a strategic geo-targeted approach.

Program Activities

In 2022, the company continued offering the SBDI program to customers in southern Idaho, expanding to the company's Treasure Valley area early in the year. Idaho Power sent direct-mail letters to customers informing them of their eligibility to participate, and the contractor followed up with calls offering another opportunity to hear about the program and declare their interest in participating. As customers responded to the letters and follow-up calls, lighting assessments were scheduled. Customers who agreed to have LEDs installed at their facility were scheduled for project installation. The SBDI contractor scheduled 823 lighting assessments, completed 680 project installations, and completed 70 post-installation inspections.

Marketing Activities

Idaho Power sent 4,054 direct-mail letters to business customers in the Capital Region, 3,179 letters to business customers in the Canyon-West Region, and 253 letters to business customers in the Southern Region in 2022. The program contractor followed up with 2,100 phone calls after customers received the letters.

Cost-Effectiveness

In 2022, the projects in the SBDI program were all lighting upgrades. Idaho Power's third-party contractor calculates the savings based on the existing fixture wattage, the replacement fixture wattage, and the HOU. The UCT and TRC ratios for the program are 0.95 and 1.50 respectively. Non-energy impacts were applied in 2022 based on an estimated per kWh value by C&I end-uses. These values were provided by a third-party as part of the 2019 impact evaluation of the New Construction and Retrofits options. In 2022, Idaho Power discussed the cost-effectiveness challenges facing the program in the future with EEAG. These challenges include the reduced savings potential from screw-in bulbs and increased costs associated with materials and labor. As the cost of this free service rises, it will be increasingly difficult for the program to be cost-effective from the UCT perspective. As a result, the offering will close in March 2023 once the program has been fully offered across the service area.

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

Customer Satisfaction

Idaho Power's third-party implementer sent 680 customer satisfaction surveys to program participants in 2022, of which 196 surveys were completed. Key highlights include the following:

- More than 95% of respondents said they were "very satisfied" with the program, and just over 4% of respondents indicated they were "somewhat satisfied."
- Nearly 96% of respondents found it "very easy" to participate in the program and almost 4% reporting it was "somewhat easy" to participate in the program.
- All respondents reported they would be likely to recommend the program to other small businesses, with over 92% of respondents saying they were "very likely" and nearly 8% reporting they were "somewhat likely."
- All respondents were satisfied with the equipment installed at their business, with nearly 95% of respondents reporting they were "very satisfied" and just over 5% of respondents saying they were "somewhat satisfied."
- When asked how their opinion of Idaho Power has changed since participating in the program, over 58% of respondents reporting having a more favorable opinion of Idaho Power, and nearly 42% of respondents reported no change in opinion.

As part of the process evaluation conducted on the program in 2021, the evaluators recommended additional customer satisfaction follow-up with nonresponding customers. In 2022, Idaho Power worked with the third-party implementer to identify non-respondents to the implementer's customer satisfaction survey. Idaho Power sent 296 customer satisfaction surveys to program participants in 2022, of which 47 surveys were completed. Key highlights include the following:

- More than 89% of respondents said they were "very satisfied" with the program, and more than 8% of respondents indicated they were "somewhat satisfied."
- More than 94% of respondents reported they were "very satisfied" with the equipment installed, and more than 6% of respondents indicated they were "somewhat satisfied."
- More than 89% of respondents said they were "very satisfied" with the customer service provided by the company installing the equipment, and more than 6% of respondents indicated they were "somewhat satisfied."

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

2023 Plans

Idaho Power will continue to operate this program as described above until the program has been fully offered across its service area, which is March 2023; at that time Idaho Power will close the program.

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 July 2022, the active irrigation service locations totaled 21,324 system-wide, which is an increase of 1.2% compared to July 2021. The increase is primarily caused by adding service locations for pumps and center pivot irrigation systems as land is converted from furrow and surface irrigation to sprinkler irrigation.

Irrigation customers accounted for 1,949,766 MWh of energy usage in 2022, versus 2,125,733 MWh in 2021. The approximately 8% decrease is primarily because of substantial rain that occurred in June. This sector represented nearly 12.3% of Idaho Power's total electricity sales, and approximately 29% of July sales. Though annual electricity use may vary substantially for weather-related reasons, and there are now more irrigation customers, the energy-use trend for this sector has not changed significantly in many years because of the following:

- The added energy usage from new customers is relatively small compared to the energy use of the average existing customer
- Ongoing improvements through energy efficiency efforts and system replacement offset much of the added energy use

The Irrigation Efficiency Rewards program, including the GMI, experienced decreased annual savings: from 9,699,849 kWh in 2021 to 6,954,805 kWh in 2022. This was due primarily to a decrease in the savings and measures from small maintenance upgrades in the Menu Incentive Option of the program.

Idaho Power re-enrolled the majority of the 2021 Irrigation Peak Rewards participants in 2022, with 2,142 service points and a maximum load reduction potential of 255.6 MW. Table 20 summarizes the overall expenses and program performance for both programs and shows the actual load reduction was 155.1 MW.

Table 20. Irrigation sector program summary, 2022

Program	Participants	Total Cost		Savings	
		Utility	Resource	Annual Energy (kWh)	Peak Demand (MW)*
Demand Response					
Irrigation Peak Rewards	2,142 service points	$ 8,503,140	$ 8,503,140		155.1/255.6
Total		**$ 8,503,140**	**$ 8,503,140**		**155.1/255.6**
Energy Efficiency					
Irrigation Efficiency Rewards	519 projects	2,080,027	14,083,686	6,937,855	
Green Motors Initiative—Irrigation	6 motor rewinds	0	5,634	16,950	
Total		**$ 2,080,027**	**$ 14,089,320**	**6,954,805**	

Notes:
See Appendix 3 for notes on methodology and column definitions.
Totals may not add up due to rounding.
* Maximum actual demand reduction/maximum demand capacity. Demand response program reductions are reported with 9.7% peak loss assumption.

Irrigation DSM Programs

Irrigation Efficiency Rewards. An energy efficiency program designed to encourage customers to replace or improve inefficient irrigation systems and components. Customers receive incentives through the Custom Incentive Option for extensive retrofits and new systems and through the Menu Incentive Option for small maintenance upgrades.

Irrigation Peak Rewards. A demand response program designed to reduce load from irrigation pumps during periods of high energy demand or for other system needs. Participating service points are automatically controlled by Idaho Power switches or manually interrupted by the customer for very large pumping installations or when switch communication is not available.

Green Motor Initiative. Under the GMI, service center personnel are trained and certified to repair and rewind motors to improve reliability and efficiency. If a rewind returns a motor to its original efficiency, the process is called a "Green Rewind." Idaho Power pays service centers to rewind qualified irrigation motors. Half of this incentive is then given to the customer as a credit on the rewind invoice.

Marketing

In 2022, the company mailed a summer edition of *Irrigation News* to all irrigation customers in its service area. In part, the newsletter educated customers about how to sign up for new or upgraded service, momentary outage improvements, planning for safety, My Account information, changes to the Irrigation Efficiency Rewards program, and updates to the Irrigation Peak Rewards program.

The application for new or upgraded service was put into a tear-pad version so during one-on-one visits agricultural representatives (ag reps) could easily tear off an application and provide to irrigator.

The company also placed numerous print ads in agricultural publications to reach the target market in smaller farming communities. Publications included the *Capital Press*, *Power County Press/Aberdeen Times*, *Potato Grower* magazine, *Owyhee Avalanche*, and *The Ag Expo East and West* programs. Idaho Power used radio advertising to show support for the Future Farmers of America and Ag Week conferences.

January through March, the company ran 1,796 radio ads promoting the Irrigation Efficiency Rewards program. The 30-second spots ran in eastern and southern Idaho on a variety of stations, including news/talk, sports, classic rock, adult hits, and country.

Customer Satisfaction

Idaho Power conducts the *Burke Customer Relationship Survey* each year. In 2022, on a scale of zero to 10, irrigation survey respondents rated Idaho Power 8.08 regarding offering programs to help customers save energy, and 7.95 related to providing customers with information on how to save energy and money. Twenty-three percent of irrigation 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, 89% are “very” or “somewhat” satisfied with the program.

Training and Education

Idaho Power continued to market its irrigation programs by offering virtual and in-person workshops and offering new presentations to irrigation customers. In 2022, Idaho Power provided three virtual irrigation workshops for the Irrigation Efficiency Rewards and Irrigation Peak Rewards programs; this number was greatly reduced compared to a typical year due to COVID-19. Approximately 18 customers attended virtual workshops. In December 2022, Idaho Power provided one in-person workshop in Oregon with 20 customers in attendance. In October program staff attended the first annual Idaho Farm and Ranch Conference in Boise and hosted a booth.

Field Staff Activities

Idaho Power agricultural representatives (ag reps) were available to be on-site with customers in 2022, offering Idaho Power energy efficiency and demand response program information, education, training, and irrigation system assessments and audits across the service area.

Also, in 2022, ag reps continued their engagement with agricultural irrigation equipment dealers with the goal of sharing expertise about energy-efficient system designs and increasing awareness about the program. Ag reps and the irrigation segment coordinator, a licensed

agricultural engineer, participated in training sponsored by the nationally based Irrigation Association to maintain or obtain their Certified Irrigation Designer and Certified Agricultural Irrigation Specialist accreditations.

Irrigation Efficiency Rewards

	2022	2021
Participation and Savings*		
Participants (projects)	525	1,031
Energy Savings (kWh)	6,954,805	9,699,849
Demand Reduction (MW)	n/a	n/a
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	$1,950,122	$2,350,620
Oregon Energy Efficiency Rider	$74,622	$221,523
Idaho Power Funds	$55,284	$35,057
Total Program Costs—All Sources	$2,080,027	$2,607,200
Program Levelized Costs		
Utility Levelized Cost ($/kWh)	$0.027	$0.023
Total Resource Levelized Cost ($/kWh)	$0.179	$0.166
Benefit/Cost Ratios**		
Utility Benefit/Cost Ratio	2.69	3.32
Total Resource Benefit/Cost Ratio	2.54	4.49

* 2021 total includes 19,352 kWh of energy savings from 12 Green Motors projects. 2022 total includes 16,950 kWh of energy savings from 6 Green Motors projects.

** 2021 cost-effectiveness ratios include evaluation expenses. If evaluation expenses were removed from the program's cost-effectiveness, the 2021 UCT and TRC would be 3.34 and 4.49, respectively.

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 area 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 Option and Menu Incentive Option. 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 the standard before approving the incentive. If an existing irrigation system is changed to a new water source, it is considered a new irrigation system under this program. The incentive for a new system is $0.25 per estimated kWh saved in one year, not to exceed 10% of the project cost.

For existing system upgrades, the incentive is $0.25 per estimated kWh saved in one year or $450 per estimated kW demand reduction, whichever is greater. The incentive is limited to 75% of the total project cost.

The qualifying energy efficiency measures include 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 and analyzes each project, considering prior usage history, irrigation system maps, system design details, invoices, and, in many 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 7 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

Incentives are based on a predetermined kWh savings per component from the RTF. Based on the evaluation that the RTF completed in 2021, the kWh annual savings changed for many components with some components being removed because the savings were no longer supported. On January 1, 2022, Idaho Power changed the list of eligible components to exclude new wheel-line hubs, goosenecks, pipe repair, and center pivot base boot gaskets. Any invoice dated prior to January 1, 2022, was eligible for the previous measures and incentive amounts for up to one year from the date of the invoice.

Green Motors Initiative

Idaho Power also participates in the GMPG GMI. Under the initiative, Idaho Power pays service centers $2.00 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 2022, a total of 519 projects were completed: 439 Menu Incentive Option projects that provided an estimated 2,633 MWh of energy savings, and 80 Custom Incentive Option projects that provided 4,305 MWh of energy savings (45 new systems and 35 existing systems).

Also, a total of six irrigation customers' motors were rewound under the GMI and accounted for 16,950 kWh in savings.

Marketing Activities

In addition to activities mentioned in the Irrigation Sector Overview, the Idaho Power ag rep and program specialist worked one-on-one with irrigation dealers and vendors who are key to the successful promotion of the program. In March 2022, the ag reps held three virtual workshops. The content was the same but offered a morning, noon, and afternoon option on three different days so customers could easily join. The virtual seminar focused on the Irrigation Efficiency Rewards program, Idaho Power's website, and self-help tools. The ag rep also visited each irrigation vendor in their area to distribute new menu efficiency applications and explain the program changes.

Cost-Effectiveness

Idaho Power calculates cost-effectiveness using different savings and benefits assumptions and measurements for the Custom Incentive Option and the Menu Incentive Option.

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 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 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.

The RTF irrigation hardware maintenance workbook version 5.3 is the source of all savings assumptions for the Menu Incentive Option. In spring 2021, the RTF updated the savings

assumptions for the irrigation hardware measures based on survey results from Idaho Power, BPA, and PacifiCorp. While measure savings did not change significantly, the survey results did support an increase in the measure life from 4–5 years to 6–7 years. However, four measures (wheel-line hubs, goosenecks with drop tube, cut and pipe press or weld repair, and new center pivot base boot gaskets) showed little to no savings, thus those measures were removed from the updated irrigation workbook. With no supported savings, Idaho Power removed the measures from the Menu Incentive Option in 2022.

The changes to the measure offerings were effective on December 31, 2021. Any invoice dated December 31, 2021, or before and submitted within one year was processed under the prior program measure incentive list. For invoices with dates of January 1, 2022, and later, the applications were processed under the updated measure list and incentive levels.

The UCT and TRC for the program are 2.69 and 2.54, respectively.

Complete measure-level details for cost-effectiveness can be found in *Supplement 1: Cost-Effectiveness*. Assumptions for measures processed before the program update can be found in the *Demand-Side Management 2021 Annual Report, Supplement 1: Cost-Effectiveness.*

2023 Plans

Irrigation Efficiency Rewards program marketing plans typically include conducting at least six customer-based irrigation workshops to promote energy efficiency, technical education, and program understanding. Idaho Power has committed to a booth at the Idaho Irrigation Equipment Show & Conference, Western Ag Expo, Idaho Potato Show, and the Southern Ag Expo in 2023. The focus of the booth material and conversations will be to promote the Irrigation Efficiency Rewards program and what customers can do to obtain incentives from Idaho Power. Marketing the program to irrigation supply companies will continue to be a priority, as they are an important part of getting the program in front of customers.

The company will promote the program in agriculturally focused editions of newspapers, magazines, and radio ads. The radio ads will run during the winter/spring throughout the company's South-East region.

Irrigation Peak Rewards

	2022	2021
Participation and Savings		
Participants (service points)	2,142	2,235
Energy Savings (kWh)	n/a	n/a
Demand Reduction (MW)*	155.1/255.6	255.5/319.5
Program Costs by Funding Source		
Idaho Energy Efficiency Rider	$569,467	$239,101
Oregon Energy Efficiency Rider	$272,171	$167,041
Idaho Power Funds	$7,661,502	$6,607,173
Total Program Costs—All Sources	$8,503,140	$7,013,315
Program Levelized Costs		
Utility Levelized Cost ($/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

* Maximum actual demand reduction/maximum potential demand reduction. Demand response program reductions are reported with 9.7% peak loss assumptions.

Description

Idaho Power's Irrigation Peak Rewards program is a voluntary, demand response program available to all agricultural irrigation customers. Initiated in 2004, the purpose of the program is to minimize or delay the need for 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 and offers two interruption options: Automatic Dispatch Option and Manual Dispatch Option. Automatic Dispatch Option pumps are controlled by an AMI or 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 has determined the AMI or cellular technology will not function properly at that location. Manual Dispatch Option customers nominate a kW reduction and are compensated based on the actual load reduction during the event.

Program event parameters for both interruption options are listed below:

- June 15 to September 15 (excluding Sundays and holidays)
- Up to four hours per day between 3 and 10 p.m. (Standard Interruption) or 3 and 11 p.m. (Extended Interruption)
- Up to 16 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 payments are credits that are applied to the monthly billing during the months of June through October. The fixed credits are based on the customer's actual demand and use, and reduce the monthly billed amount. The variable payments are additional incentives that are paid beginning with the fifth event. The variable payments are calculated at the end of the season and are mailed to the customers in the form of a check.

The fixed incentive amount is $5.25 per kW with an energy incentive of $0.008 per kWh. The fixed incentive demand (kW) credit is calculated by multiplying the monthly billing kW usage by the fixed incentive amount. The energy (kWh) incentive credit is calculated by multiplying the monthly billing kWh usage by the energy incentive amount. The fixed 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 incentive of $0.18 (Standard Interruption) per kWh applies to the fifth and subsequent events that occur between 3 p.m. and 10 p.m. The variable incentive is increased to $0.25 per kWh when customers allow Idaho Power to interrupt their pumps for 4 hours between 3 p.m. and 11 p.m. For the Automatic Dispatch Option service points, the variable incentive is calculated using the billed demand (kW) during the billing cycle/period of the event, multiplied by the length of the event in hours multiplied by the applicable variable incentive rate. For the participating Manual Dispatch Option participants, the variable incentive payment is calculated based on the actual demand (kW) reduction during the event hours multiplied by the length of the event in hours multiplied by the applicable variable incentive rate. The variable incentive is paid in the form of a check no later than 70 days after the program season.

Program rules allow customers to opt out of dispatch events while incurring an opt-out fee of $6.25. The opt-out fee is calculated by multiplying $6.25 times the kW cost based on the current month's billing or kW not achieved for Manual Dispatch Option participants. The kW not achieved for the Manual Dispatch Option refers to the amount that was nominated versus the actual kW reduction that was achieved. At the start of the season the manual customers nominate the amount of kW reduction they plan to achieve during a demand response event. The opt-out penalties will not exceed the total credit that would have been paid with full participation.

Program Activities

Changes to the program as authorized by the OPUC and the IPUC in 2022 included lengthening the season from August 15 to September 15; changing the event window to later in the evening; increasing the fixed and variable incentives; changing the threshold from three to

four events for when the variable incentive is paid; and opening enrollment to all agricultural irrigation customers.

In 2022, Idaho Power enrolled 2,142 (10%) of the eligible service points in its service area in the program. The total billing demand of participating service locations was 346.3 MW versus 402.8 MW in 2021. The total maximum potential reduction (capacity) for the program was 255.6 MW in 2022 versus 319.5 MW in 2021. The key factor impacting the lower maximum capacity was participation concern over the later evening hours and labor issues in getting systems going again after events. Another factor was that during enrollment for the program the water supply forecast looked to be very low, so customers felt they would have less ability to make up for load reduction events.

A primary ongoing activity each year is maintaining communication and device failure identification and correction both pre-season and during the season. Device failure is affected by many things outside the company's control, from customer electrical panel or wiring issues to actual component failure in the device. The company used three electrical contractors in 2022 to maintain, troubleshoot, repair, and exchange the AMI devices and cellular devices that are attached to customers electrical panels to be able to turn pumps off during events.

Table 21 shows the event performance by date and group. The total load reduction shown in 2022 is less than 2021 because Idaho Power had a smaller number of total MW enrolled in the program in 2022. The program was used on eleven days. Nine days had two groups participating and two days had all four groups participating, for 43 total event hours. The program achieved an actual maximum demand reduction of 155.1 MW (at generation level) on September 2, with all groups participating.

Table 21. Irrigation Peak Rewards demand response event details

Event Details	Thursday, July 7	Tuesday, July 12	Tuesday, July 26	Wednesday, July 27	Thursday, July 28	Friday, July 29	Monday, August 8	Tuesday, August 9	Wednesday, August 17	Friday, September 2	Tuesday, September 6
Event Time (p.m.)	6–10	4–9	4–9	5–10	4–9	4–10	3–9	4–9	4–10	3–10	6–10
Groups	A, B	C, D	A, C	B, D	A, C	B, D	C, D	A, B	B, C	A, B, C, D	A, B, C, D
High Temperature*	95° F	101° F	100° F	102° F	103° F	104° F	104° F	99° F	103° F	101° F	101° F
Maximum Load Reduction (MW)	121.2	109.1	113.5	76.2	102.6	76.8	83.9	75.1	86.8	155.1	152.1

*National Weather Service, recorded in the Boise area

Marketing Activities

New program parameters per IPUC Case IPC-E-21-32 and OPUC Docket No. ADV 1355/Advice No. 21-12 (replacing the IPC-E-13-14/UM 1653 Settlement agreement) went into effect in 2022 and allowed Idaho Power to market the program to all potential customers.

In 2022, the program brochures and website were updated to reflect the new program parameters. Idaho Power used virtual workshops, direct-mail, and outreach calls to encourage past participants to re-enroll in the program and potential new participants to enroll for the first time. The brochure, enrollment worksheet, and contact worksheet were mailed to all eligible participants in March 2022. See the Irrigation Sector Overview section for additional marketing activities.

Cost-Effectiveness

Idaho Power determines cost-effectiveness for the demand response programs using the approved method for valuing demand response under IPUC Order No. 35336 and the OPUC's approval on February 8, 2022, in Docket No. ADV 1355. Using the financial and alternate resource cost assumptions from the *2021 Integrated Resource Plan,* the defined cost-effectiveness threshold for operating Idaho Power's three demand response programs for the maximum allowable 60 hours is $82.91 per kW under the current program parameters.

The Irrigation Peak Rewards participants were dispatched for either six or seven events, resulting in either 24 or 28 event hours and achieved a maximum demand reduction of 155.1 MW with a maximum potential capacity of 255.6 MW. The total expense for 2022 was $8.5 million and would have been approximately $10.5 million if the program had been operated for the full 60 hours. Using the potential cost and the maximum potential capacity results in a cost of $40.97 per kW, which shows the program was cost-effective.

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

Customer Satisfaction

In November, Idaho Power sent surveys to program participants and non-participants. The purpose of the surveys was to evaluate the motivators and barriers to participation as well as gauge customers' likelihood to participate in the program under varying program designs. Participants were asked additional questions around their customer's overall satisfaction with the program and the ease of participation.

Idaho Power received 93 responses from the participant survey and 171 responses from the non-participant survey. Some highlights include the following:

- For participants, nearly 42% of respondents indicated their irrigation system type and 20% indicated the time of event hours prevented them from enrolling additional

irrigation service locations in the program. For non-participants, almost 14% of the respondents did not participate in the program because it's too much risk to their crops while 13% of respondents indicated it was too much trouble to coordinate their system/labor.

- More than 47% of participant survey respondents are enrolled in the Extended Interruption Option. Of those enrolled, 68% chose to participate because of the increased variable incentive.
- Overall, 75% of participant survey respondents indicated they are "very satisfied" or "somewhat satisfied" with the Peak Rewards program.
- Nearly 85% of participant survey respondent indicated they are "very likely" or "somewhat likely" to participate in the program in 2023.
- Respondents were asked their likelihood to participate in the program if Idaho Power limited the number of times the program could be called each week at a reduced incentive level.
    - Under all scenarios, 58 to 63% of current participants indicated they are "very unlikely" or "somewhat unlikely" to participate in the program under the proposed hypothetical scenario options.
    - Under all scenarios, 53 to 58% of current non-participants indicated they are "very unlikely" or "somewhat unlikely" to participate in the program under the proposed hypothetical scenario options.

A copy of the complete report is included in *Supplement 2: Evaluation.*

Evaluations

Each year, Idaho Power produces an internal report of the Irrigation Peak Rewards program. This report includes more detail on the load-reduction analysis, overall costs, and program participation. A breakdown of the load reduction for each event day and each event hour, including line losses, is shown in Table 22.

Table 22. Irrigation Peak Rewards program MW load reduction for events

Event Date	Groups*	3–4 p.m.	4–5 p.m.	5–6 p.m.	6–7 p.m.	7–8 p.m.	8–9 p.m.	9–10 p.m.
7/7/2022	A, B				115.3	121.2	119.5	119.1
7/12/2022	C, D	5.5	67.1	109.1	108.9	101.1	40.5	
7/26/2022	A, C	3.1	68.5	113.5	113.5	108.7	43.0	
7/27/2022	B, D			42.2	75.8	76.2	75.8	32.5
7/28/2022	A, C	5.1	59.7	102.6	102.1	96.1	40.6	
7/29/2022	B, D		40.4	40.5	76.2	76.8	35.5	35.0
8/8/2022	C, D	16.3	54.4	83.9	80.6	67.8	30.2	
8/9/2022	A, B		40.1	74.0	75.1	74.6	33.7	
8/17/2022	B, C		4.1	55.8	86.7	86.8	81.4	29.5
9/2/2022	A, B, C, D	4.5	43.7	117.7	155.1	147.3	110.2	37.5
9/6/2022	A, B, C, D				102.8	122.7	151.0	152.1

*Group C had some customers on an early off time.

2023 Plans

For the 2023 program season, Idaho Power will continue the program as revised in 2022 as authorized by the IPUC and the OPUC.

Irrigation Peak Rewards enrollment packets will be sent to all irrigation customers. Each customer will be sent a comprehensive packet containing an informational brochure, enrollment worksheet and a contact worksheet. For all new pump signups, a demand response unit will need to be installed by a contracted electrician prior to June 15, 2023.

Idaho Power will have an informational booth at the local 2023 Ag Expos including Western, Eastern, and Southern. The Irrigation Peak Rewards program will be the focus of in person workshops presented by Idaho Power ag reps in spring 2023. For the upcoming season, Idaho Power will continue its focus on retaining currently enrolled participants and will consider using email marketing, radio, paid search, digital display, and other new tactics to boost program enrollment. The ag reps will continue to remind and inform customers and encourage program participation in person and by phone.

Other Programs and Activities

Idaho Power's Internal Energy Efficiency Commitment

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 fixtures on floors five, six and seven. Remodels continued to incorporate energy efficiency measures, such as lower partitions for better transfer of daylight, transom lighting, and automated lighting controls.

The CHQ building also participated in the Flex Peak Program again in 2022 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.

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. Because 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 for all customers, there has been minimal participation in the LEEF offering.

In 2022, Idaho Power received seven LEEF applications. They were generally related to home equipment replacement requests for items such as windows, heating systems, door seals, and load centers. The applications were reviewed, and the products referenced in the submittals were found to be standard, widely available products, and therefore not appropriate for LEEF. A residential program specialist followed up with the applicants to provide information on incentives currently available through Idaho Power's H&CE Program.

Energy Efficiency Advisory Group (EEAG)

Formed in 2002, EEAG provides input on enhancing existing DSM programs and on implementing energy efficiency programs. Currently, EEAG consists of 12 members representing a cross-section of Idaho Power customers from the residential, industrial, commercial, and irrigation sectors, as well as individuals representing low-income households, environmental organizations, state agencies, city governments, public utility commissions, and Idaho Power.

EEAG meets quarterly, and when necessary, Idaho Power facilitates additional meetings and/or calls to address special topics. In 2022, four regular virtual EEAG meetings were held on February 9, May 4, August 11, and November 17. 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 programs and expenses, gave updates of ongoing programs and projects, and supplied general information on DSM issues and other important issues occurring in the region.

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 the meetings, Idaho Power frequently requests input and feedback from EEAG members on programmatic changes, marketing tactics, and incentive levels.

Throughout 2022, Idaho Power relied on input from EEAG on the important topics discussed in the sections below. For complete meeting notes, see *Supplement 2: Evaluation*.

Market Transformation

Idaho Power's energy efficiency programs and activities are gradually transforming markets by changing customers' knowledge, use, and application of energy-efficient technologies and principles. The traditional market transformation definition 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, there is promotion of the adoption of energy-efficient materials and practices before they are integrated into building codes or become standard equipment.

Idaho Power and Avista Utilities continued working with a third-party marketing firm on a project that began in 2020 to explore potential opportunities to accelerate market transformation; the goal is to benefit customers in both utilities' service areas beyond what NEEA is currently providing. This work resulted in a market transformation pilot that began in 2021 for DHPs in both Idaho Power's and Avista's service areas. The pilot was active throughout 2022 and will continue through 2023.

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.

Idaho Power participates in NEEA with funding from the Idaho and Oregon Riders. The current NEEA contract is for the five years from 2020 to 2024. NEEA categorizes the savings 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 to 500 average megawatts (aMW) of savings forecast for 2020 to 2024, NEEA expects 70 to 100 aMW to be net market effects, and 115 to 152 aMW to be co-created savings. The current contract commits Idaho Power to paying NEEA a total of $14.7 million, or approximately $2.9 million annually.

In 2022, Idaho Power participated in all NEEA committees and workgroups, including representation on the Regional Portfolio Advisory Committee (RPAC) and the Board of Directors. Idaho Power representatives participate in the RPAC, Cost-Effectiveness Advisory Committee, Commercial Advisory Committee, Regional Emerging Technology Advisory Committee (RETAC) and the Idaho Energy Code Collaborative. The company also participated in NEEA's initiatives, including the Commercial Building Stock Assessment (CBSA), Residential Building Stock Assessment (RBSA), SEM, Top-Tier Trade Ally (NXT Level), and Luminaire Level Lighting Controls (LLLC).

NEEA performed several market progress evaluation reports (MPER) on various energy efficiency efforts this year. In addition to the MPER, NEEA provides market research reports through third-party contractors for energy efficiency initiatives throughout the Northwest. Links to these and other reports mentioned below are provided in *Supplement 2: Evaluation* and on NEEA's website under Resources & Reports. For information about all committee and workgroup activities, see the NEEA Activities information below.

NEEA Marketing

To support NEEA efforts, Idaho Power educated residential customers on Heat Pump Water Heater (HPWH) and DHPs and educated commercial customers and participating contractors on NXT Level Lighting Training and LLLC.

Idaho Power promoted DHPs and HPWHs as part of its H&CE Program. Full details can be found in the H&CE Program's Marketing section.

The company participated in NEEA's HPWH *Boring but Efficient* campaign that ran on digital channels from September 1–October 31 to continue increasing consumer awareness. The advertising directs customers to visit their local utility's website, find a local installer, locate a retailer, and get product information from manufacturers.

Idaho Power continued to encourage trade allies to take the NXT Level Lighting Training. Idaho Power posted NXT Level Lighting Training information on its website and on LinkedIn in May.

To promote LLLC, Idaho Power continued using a link to an informational LLLC flyer on its main Retrofits and Lighting web pages. The company also posted about LLLCs on LinkedIn in May.

NEEA Activities: All Sectors

For the 2020 to 2024 funding cycle, NEEA and its funders have reorganized the advisory committees into two coordinating committees: Products Coordinating Committee and Integrated Systems Coordinating Committee. Additionally, NEEA and its funders form working groups as needed in consultation with the RPAC. The RPAC will continue, as well as the Cost-Effectiveness Advisory and the RETAC committees. The Idaho Energy Code Collaborative will also remain intact.

The company currently has representation on both of the NEEA coordinating committees. Quarterly meetings were held in 2022 for both committees. These committees provide utilities with the opportunity to give meaningful input into the design and implementation of NEEA initiatives, as well as to productively engage with each other. Working groups were formed by the coordinating committees to focus on topics relevant to all sectors, as described below.

Cost-Effectiveness and Evaluation Advisory Committee

The advisory committee meets 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 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 International Energy Conservation Code (IECC). The Idaho Energy Code Collaborative was formed to assist the Idaho Building Code Board (IBCB) in the vetting and evaluation of future versions of the IECC for the residential and commercial building sectors. NEEA facilitates the group, comprised of individuals having diverse backgrounds in the building industry and energy code development. Building energy code evaluations are presented by the group at the IBCB public meetings. The group also educates the building community and stakeholders to increase energy code knowledge and compliance. Idaho Power is an active member.

The Idaho Energy Code Collaborative provided statewide resources throughout 2022 to builders and related stakeholders in support of the current codes. The resources included monthly training sessions, a monthly technical newsletter by email, and a robust website—IdahoEnergyCode.com. Idaho Power will continue to participate in the Idaho Energy Code Collaborative.

Regional Emerging Technology Advisory Committee (RETAC)

Idaho Power participated in the RETAC, which met quarterly to review RETAC's emerging technology pipeline that was developed with assistance from the BPA, NEEA, and the NWPCC. Throughout 2022, RETAC focused primarily on space-heating and water-heating products for residential and commercial markets. The technologies for these products centered on heat pumps. RETAC discussed the current state of the technologies and their associated gaps and issues. In each RETAC session, the group discussed ways NEEA and the regional utilities could help address those gaps and issues. This work will continue in 2023.

Regional Portfolio Advisory Committee

RPAC is responsible for overseeing NEEA's market transformation programs and their advancement through key milestones in the "Initiative Lifecycle." RPAC members must reach a full consent vote at selected milestones 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 quarterly meetings and adds other webinars as needed.

In 2022, RPAC conducted three of the quarterly meetings, all of which were virtual; the November meeting was cancelled as topics were not time-sensitive and could wait until 2023. Throughout 2022, RPAC received updates of savings forecasts, portfolio priorities, and committee reports.

In the first regular quarterly meeting on February 23, NEEA staff went over upcoming milestones for the NEEA initiatives and presented charter and various work group updates. Upcoming milestone votes NEEA reviewed were: Efficient Fans, Extended Motor Products for Pumps, High Performance HVAC, High Performance Windows, and Variable-speed Heat Pumps. NEEA staff made the committee aware of the details involved in program advancement and went over the timeline for each initiative.

On May 25, NEEA staff updated RPAC on recent developments and reviewed the NEEA electric portfolio, reminding RPAC members of the key portfolio goals, programs included, current status in NEEA's initiative lifecycle, savings and risk profiles, and which programs help with portfolio diversification. NEEA provided an overview on the Extended Motor Products—Pumps and Circulators program in preparation for a committee vote to move the initiative to the next phase of market development; the committee voted to approve that action. NEEA provided an update on both the High-Performance HVAC program and Efficient Fans program based on an anticipated milestone vote to advance each next quarter. NEEA staff also went over a proposal to run the 2021 HPWH ad campaign again in September through October 2022.

At the August 24 meeting, NEEA gave RPAC members a portfolio update showing status and outlook of each initiative. NEEA provided an overview on the Efficient Fans program in preparation for a committee vote to move the initiative from concept development to program

development; the committee voted to approve that action. NEEA also presented the High-Performance HVAC program in preparation for a committee vote to move the initiative to the next phase of market development; the committee voted to approve that action. NEEA also presented their 2023 Operations Plan and timeline.

NEEA Activities: Residential

NEEA provides BetterBuiltNW online builder and contractor training and manages the regional homes database, AXIS.

Residential Building Stock Assessment (RBSA)

The RBSA is a study conducted approximately every five years. Its purpose is to determine common attributes of residential homes and to develop a profile of the existing residential buildings in the Northwest. The information is used by the regional utilities and the NWPCC to determine load forecast and energy-savings potential in the region. NEEA began work on the RBSA in mid-2020.

Idaho Power participated in monthly work group meetings to discuss the study's objectives, framework, sampling design, and communication plan. Site visits in the region began at the end of 2021 and continued through 2022. For residential customers who chose to participate, the third-party contractor scheduled a site visit with a field technician who collected information on the home's characteristics. While site visits for single-family homes are now complete, NEEA continues to recruit for multifamily buildings to participate in the study. Field work will continue through early quarter 2 of 2023.

Due to delays in receiving the demographic and housing characteristics file from the 2020 U.S. Census, completion of the study has been delayed. A final report will be available by the end of 2023.

NEEA Activities: Commercial/Industrial

NEEA continued to provide support for C&I energy efficiency activities in Idaho in 2022, which included partial funding of the IDL for trainings and additional tasks.

Commercial Building Stock Assessment (CBSA)

NEEA began work on the CBSA in 2022. The CBSA is a study 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 chose to participate in the study, the third-party contractor scheduled a site visit with a field technician who collects information on equipment and building characteristic that affect energy consumption. This includes HVAC equipment, lighting, building envelope, water heating, refrigeration and cooking, computers and miscellaneous equipment, and cooling towers.

Beginning in August 2022, Idaho Power staff participated in the monthly working group. The CBSA is still in the early design phase of the study, thus the objectives and priorities are still being determined. A request for proposal to select a contractor will be issued in early 2023 with site visits planned for 2024 through 2025. The report is slated to be released in early 2026.

Very High-Efficiency Dedicated Outside Air Systems (DOAS)

NEEA's High-Performance HVAC program focused on design of market intervention strategies based on market and field research associated with very high efficiency DOAS. Very high-efficiency DOAS pairs a very high-efficiency heat/energy recovery ventilator (HRV/ERV) type of DOAS with a high-efficiency heating and cooling system, while following set design principles that maximize efficiency. NEEA updated the Very High Efficiency DOAS system requirements in 2022 based on market feedback and project experience. NEEA performed market research and published a report titled *VHE DOAS Commercial Building Decision Makers Market Research* on March 29, 2022, on building owners' perceptions of the challenges and benefits of very high efficiency DOAS. NEEA also created additional resources for utilities provided on the BETTERBRICKS website.

Luminaire Level Lighting Controls (LLLC)

Throughout 2022, NEEA engaged with key manufacturers and their sales channels to encourage promotion of LLLC to their customers and projects. NEEA continued to partner with utilities to offer trade ally training opportunities for awareness and increased understanding of Networked Lighting Controls (NLC)/LLLC systems. Two of the training classes were held in Idaho Power's service area, with 38 trade allies receiving NLC/LLLC training.

NEEA continued to offer a variety of LLLC educational resources for use by utilities and their customers and trade allies. These materials are found at betterbricks.com. In addition, NEEA is actively working with utilities in the Pacific Northwest to develop case studies of commercial buildings that incorporated LLLC.

NEEA Funding

In 2020, Idaho Power and NEEA commenced a five-year agreement for the 2020 to 2024 funding cycle. Per this agreement, NEEA implements market transformation programs in the company's service area and Idaho Power is committed to fund NEEA based on a quarterly estimate of expenses up to the five-year total direct funding amount of $14.7 million, or approximately $2.9 million annually. On February 20, 2020, Idaho Power received IPUC Order No. 34556, supporting Idaho Power's participation in NEEA from 2020 to 2024 with such participation to be funded through the Idaho Rider and subject to a prudency review.

In 2022, Idaho Power paid $2,789,937 to NEEA: $2,650,440 from the Idaho Rider for the Idaho jurisdiction and $139,497 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 the Idaho and Oregon Riders.

Final NEEA savings for 2022 will be released later in 2023. Preliminary estimates reported by NEEA indicate Idaho Power's share of regional market transformation savings as 24,448 MWh. These savings are reported in two categories: 1) codes-related and standards-related savings of 20,344 MWh (83%) and 2) non-codes-related and non-standards-related savings of 4,104 MWh (17%).

The preliminary savings reported by NEEA for 2022 had one change in methodology. Because code adoption varies between states, NEEA transitioned to report energy savings for state building codes using a state allocation approach, as the funder share allocation methodology no longer provided a reasonable representation of code savings occurring in a funder's service area. For non-codes related savings, NEEA continued to use the funder share allocation methodology. Idaho Power has requested that non-codes savings use the service area allocation approach. NEEA has committed to work with Idaho Power in 2023 to update the assumptions used to allocate savings before shifting to this methodology for 2023 reporting.

In the *Demand-Side Management 2021 Annual Report*, preliminary funding-share estimated savings reported were 17,870 MWh. The final funding-share NEEA savings for 2021 reported herein are 16,819 MWh, and 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 at neea.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, 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 regarding the following RTF charter items:

- 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 NWPCC 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 regional research findings and energy savings annually.

The current agreement to sponsor the RTF extends through 2024. 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.

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 2022, Idaho Power staff participated in all RTF meetings as a voting member and is represented on 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 2022.

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 2022. Idaho Power's Customer Care 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. It was promoted in the 2022 *Energy Efficiency Guide*, and on the fall energy efficiency

bill insert, which went to all residential customers in September. The meter was also demonstrated and promoted during the October KTVB segment.

Figure 23. Energy Efficiency Kit featuring the Kill A Watt meter

Customer Education and Marketing

REEEI produced one *Energy Efficiency Guide* in 2022, which was distributed primarily as an insert in local newspapers. The year-round-themed guide was published and distributed by the *Boise Weekly* and 24 newspapers in Idaho Power's service area the week of June 26. The guide focused on information that would be useful to customers throughout the year, including energy-savings 101, what a kilowatt is and how customers can use a Kill A Watt meter to measure watts, tips for working with a contractor, how to find information about energy savings, ways to save energy during each season, an energy efficiency success story, the A/C Cool Credit program, and information for customers considering rooftop solar.

Idaho Power promoted the guide on its homepage, on social media, and through a link emailed to residential customers. The *Idaho Statesman* published two ads encouraging readers to look for the guide. Digital ads on idahostatesman.com included a homepage takeover on June 26 and June 30, as well as banner ads that ran between June 26 and July 9, earning 150,000 impressions. Digital ads drove traffic to the *Energy Efficiency Guide* on idahopower.com.

Idaho Power's website also provides links to the current guide, as well as past seasonal guides. In 2022, over 184,000 guides were distributed throughout the service area.

REEEI distributed energy efficiency messages through a variety of other communication methods in 2022. Idaho Power increased customer awareness of energy-saving ideas via continued distribution of the fifth 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 2022, the program distributed 1,550 copies directly to customers. This was accomplished primarily by fulfilling direct web requests from customers, through energy advisors during in-home visits, 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 energy efficiency program specialists connected with energy advisors and other employees from each of Idaho Power's geographical regions and the Customer Care Center to discuss educational initiatives and answer questions about the company's energy efficiency programs.

As COVID-19 concerns waned, opportunities to re-engage with customers at in-person community events and venues began to return to normal. Idaho Power participated in 42 events highlighting energy efficiency messages. Program specialists and EOEAs shared information about programs and other energy-saving ideas in an additional 667 presentations and trainings for audiences of all ages throughout the year. To increase opportunities with adult audiences and more secondary-school-aged young people, the EOEAs carried out a concerted marketing effort—establishing relationships with 338 new influencers and decision-makers. Additionally, Idaho Power's energy efficiency program specialists responded with detailed answers to 375 customer questions about energy efficiency and related topics that were either forwarded from the Idaho Power's Customer Care Center or received via Idaho Power's website.

Idaho Power's social media channels and *News Briefs* focused on content designed to help customers save energy, including quarterly bill inserts and emails that provided all residential customers with easy steps to get their home ready for each season, and behavioral tips for reducing energy use.

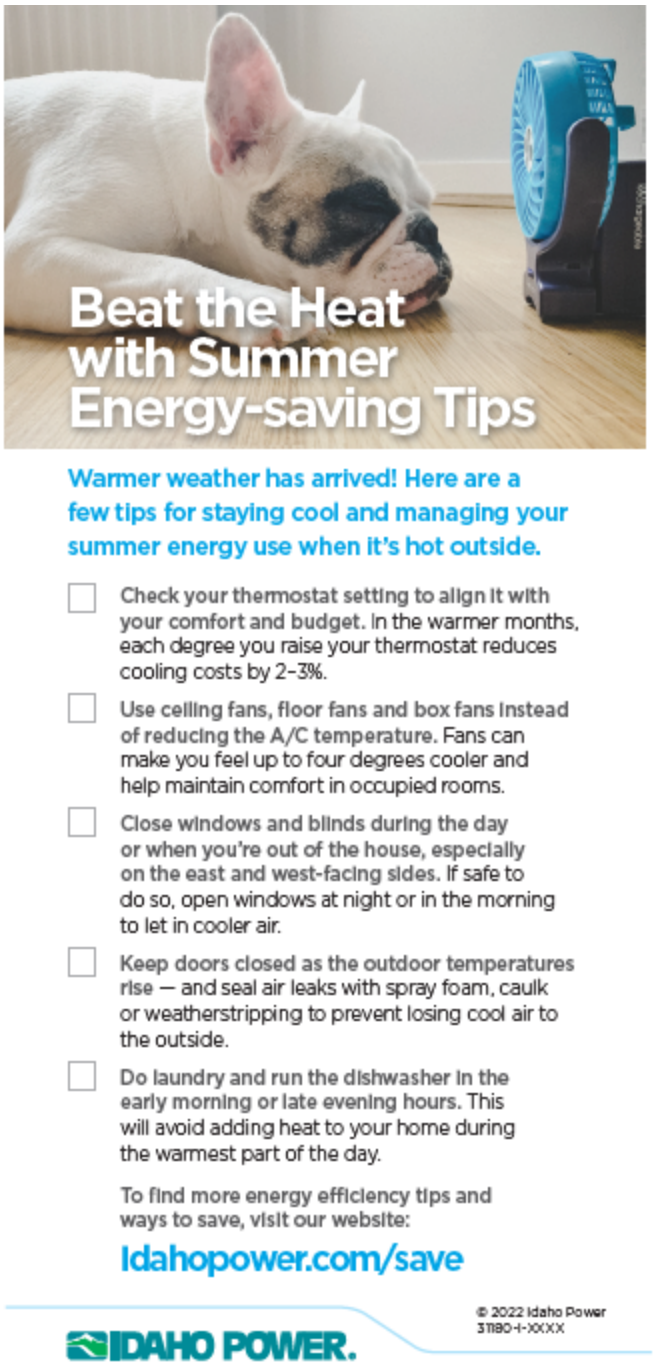


Figure 24. Summer energy-saving tips

Idaho Power promoted National Energy Awareness Month on social media in October. *News Briefs* and the regular KTVB television spots also highlighted Energy Awareness Month activities.

Figure 25. Energy Awareness Month social media posts

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 publications, such as *Connections* and Idaho Power's social media pages, energy efficiency tips and content were provided for *News Briefs* and KTVB news segments focusing on energy efficiency.

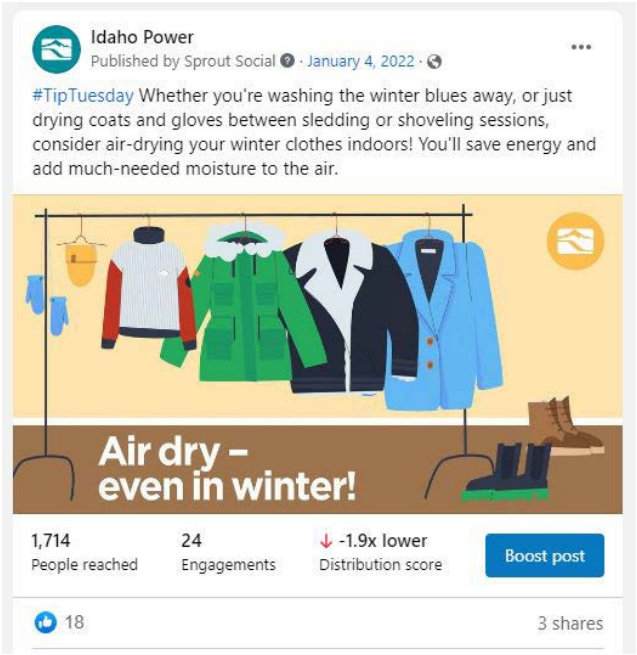


Figure 26. Tip Tuesday post

2023 Program and Marketing Strategies

The initiative's 2023 goals are to improve customer awareness of the wise use of energy, increase program participation, and promote educational 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. Examples of activities conducted under Educational Distributions include developing LED lighting education material, distributing LED nightlights, administering the SEEK program, and distributing welcome kits.

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.

Distributed Energy Resources

Pursuant to Order Nos. 32846 and 32925 in Case No. IPC-E-12-27 and Order No. 34955 in Case No. IPC-E-20-30, Idaho Power files its annual *Distributed Energy Resources (DER) Status Report* with the IPUC in April each year. The report provides updates on participation levels of customer generation, system reliability considerations, and accumulated excess net energy credits. The report can be accessed on Idaho Power's website (idahopower.com/solar); links to the three most recent reports are located to the right on the web page, in the section labeled *DER/Customer Generation Status Reports*.

University of Idaho Integrated Design Lab

Idaho Power is a founding supporter of the IDL (idlboise.com), 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 2022, Idaho Power entered into an agreement with the IDL to perform the tasks and services described below.

Foundational Services

The goal of this task is to provide energy efficiency technical assistance and project-based training to building industry professionals and customers. Requests for IDL involvement in building 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

The IDL provided technical assistance on 16 new projects in Idaho Power's service area in 2022: 12 Phase I projects, three Phase II projects, and one Phase III project. Ten of the projects were on new buildings, five were on existing buildings, and one was general design assistance. The number of projects were the same compared to 2021. The related report is in the IDL section of *Supplement 2: Evaluation*.

Lunch & Learn

The goal of the Lunch & Learn task is to educate architects, engineers, and other design and construction professionals about energy efficiency topics through a series of educational lunch sessions.

In 2022, the IDL provided 14 in-person technical training lunches. A total of 100 architects, engineers, designers, project managers, and others attended.

The topics of the lunches (and the number performed of each) were: Ultraviolet Germicidal Air Irradiation (1); Daylighting Multipliers (1); Thermal Energy Storage Systems (1); LLLC (3); High-Performance Classrooms (1); The Future of Lighting Controls (3); Dedicated Outdoor Air Systems (DOAS) Integration (1); LED Technology Impact on Savings and Efficiency (1); LEED V4.1 Daylighting Credits (1); and ASHRAE 36 High Performance Sequence of Operations for HVAC Systems (1). The related report is in the IDL section of *Supplement 2: Evaluation*.

Building Simulation Users Group (BSUG)

The goal of this task is to facilitate the Idaho BSUG, which is designed to improve the energy efficiency related simulation skills of local design and engineering professionals.

In 2022, six BSUG sessions were hosted by the IDL. Three of the six sessions were hosted in person and three were hosted virtually due to COVID-19 restrictions at the time. The sessions were attended by 195 professionals. Evaluation forms were completed by attendees for each session. Analyzing results from the first six questions that rated the sessions on a scale of 1 to 5, with 5 being "excellent" and 1 being "poor," the average session rating was 4.37 for 2022. 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 3.23 for 2022.

Each presentation was archived for remote access anytime, along with general BSUG content through the IDL website. The related report is in the IDL section of *Supplement 2: Evaluation*.

New Construction Verification

The goal of this task is to provide random on-site project verification on approximately 10% of the total completed C&I Energy Efficiency Program New Construction projects. This task also includes the desk review of all daylight photo-control incentives to improve the quality of design and installation.

In 2022, Idaho Power collaborated with IDL to create a new process for on-site verification to ensure that the final project documentation aligns with field installation prior to project payment. IDL conducted eight random on-site, project verifications. The purpose of these verifications was to confirm accurate information was provided regarding measure installations. The complete verification report is in the IDL section of *Supplement 2: Evaluation*.

Energy Resource Library (ERL)

The ERL gives customers access to resources for measuring and monitoring energy use on various systems. The goal of this task is to operate and maintain the library, which includes a web-based loan tracking system, and to teach customers how to use the resources in the library.

The inventory of the ERL consists of over 900 individual pieces of equipment. In 2022, 69 new tools were added to replace old data logging models, current transformers, air quality sensors to complete tool kits, and added accessories for kits. 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. Due to COVID-19 restrictions, a contactless pick-up and drop-off system is available if desired.

In 2022, nine of the 16 tool loan requests were completed by six unique users from seven locations, including two new users. Two additional loan requests are ongoing. The ERL web page recorded 2,768 visits compared to 1,483 visits in 2021. The related report is in the IDL section of *Supplement 2: Evaluation*.

Power over Ethernet (PoE)

In 2022, the IDL completed a literature review of the PoE technology and how it compares to conventional lighting technology. PoE can be configured to work with many low-wattage LEDs and can be addressed by Internet Protocol (IP) for individual control resulting in energy savings. The IDL met with several facility managers and reached out to architects, engineers, and consultants to find a suitable case study site. Due to project costs and installation time and effort, a site was not discovered to use for this task. The related report for this task is in the IDL section of *Supplement 2: Evaluation*.

Luminaire Level Lighting Controls (LLLC) Workshop Development

In 2022, the IDL planned and organized one LLLC workshop which consisted of a one-hour classroom presentation and a one-hour hands-on demonstration. Ten industry professionals attended the presentation and demonstration. The IDL installed LLLCs in their open office area and configured them into daylighting and occupancy zones. The related report for this task is in the IDL section of *Supplement 2: Evaluation*.

Design Tools Update

Over the years, the IDL has developed several digital design tools to assist local firms. These tools require updating over time. In 2022, 12 tools were hosted on the IDL website and made available for use and download serving as a one-stop resource for engineers and architects for early design considerations. IDL provided priority for each tool and will update in future tasks. The related report for this task is in the IDL section of *Supplement 2: Evaluation*.

2023 IDL Strategies

In 2023, the IDL will continue work on Foundational Services, Lunch & Learn sessions, BSUG, New Construction Verifications, ERL, Design Tools Update and one new task, Fan Savings UV Lamps.

CONCLUSIONS

This DSM report provides a summary of activities performed by Idaho Power to offer DSM programs to all its customers throughout 2022. All Programs are generally designed to educate, inform, and/or reward customers.

The savings from energy efficiency programs, including the estimated savings from NEEA, were 169,889 MWh, and the energy efficiency portfolio was cost-effective from all three benefit/cost methodologies (UCT, TRC, and PCT).

Idaho Power successfully operated its three demand response programs in 2022, with total demand response capacity approximately 312 MW and an actual max load reduction of 200 MW.

The DSM programs are carefully managed and monitored for ways to improve savings, cost-effectiveness, and value to the customer. Two energy efficiency programs were closed in 2022 and three energy efficiency programs are being phased out in 2023, either because rising costs have impacted cost-effectiveness or because market trends have lessened the impact of the offerings and measures.

Idaho Power's collaboration with multiple stakeholders lays the groundwork for building a more energy efficient future with the long-term goal of permanently changing the existing market for energy-efficient equipment and practices.

This *DSM 2022 Annual Report* satisfies the reporting obligation set forth by IPUC Order No. 29419 in Case No. IPC-E-03-19.

LIST OF ACRONYMS

A/C—Air Conditioning or Air Conditioner

Ad—Advertisement

AMI—Advanced Metering Infrastructure

aMW—Average Megawatt

AHRI—Air-Conditioning, Heating, and Refrigeration Institute

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

ASHP—Air-Source Heat Pumps

B/C—Benefit/Cost

BCASEI—Building Contractors Association of Southeast Idaho

BCASWI—Building Contractors Association of Southwestern Idaho

BOMA—Building Owners and Managers Association

BPA—Bonneville Power Administration

BSU—Boise State University

BSUG—Building Simulation Users Group

BTU—British Thermal Units

C&I—Commercial and Industrial

CAP—Community Action Partnership

CAPAI—Community Action Partnership Association of Idaho, Inc.

CBSA— Commercial Building Stock Assessment

CCNO—Community Connection of Northeast Oregon, Inc.

CCS—Commissioning, Sizing, and Controls

CEI—Continuous Energy Improvement

CEL—Cost-Effective Limit

CFM—Cubic Feet per Minute

CHQ—Corporate Headquarters (Idaho Power)

CIEE—Commercial and Industrial Energy Efficiency

CINA—Community in Action

COP—Coefficient of Performance

CR&EE—Customer Relations and Energy Efficiency

CSA–Customer Solutions Advisors

CSI—College of Southern Idaho

DHP—Ductless Heat Pump

DOAS—Dedicated Outside Air Systems

DOE—US Department of Energy

DR—Demand Response

DSM—Demand-Side Management

EA5—EA5 Energy Audit Program

ECM—Electronically Commutated Motor

EEAG—Energy Efficiency Advisory Group

EEI—Edison Electric Institute

EICAP—Eastern Idaho Community Action Partnership

EISA—*Energy Independence and Security Act of 2007*

EIWC—Eastern Idaho Water Cohort

EL ADA—El Ada Community Action Partnership

EM&V—Evaluation, Measurement, and Verification

EPA—Environmental Protection Agency

EOEA—Education and Outreach Energy Advisors

ERL—Energy Resource Library

ERV— Recovery Ventilator

ESK—Energy-Saving Kit

ETO—Energy Trust of Oregon

ft—Feet

GMI—Green Motors Initiative

GMPG—Green Motors Practice Group

GWh–Gigawatt-hour

H&CE—Heating & Cooling Efficiency

HER—Home Energy Report

HOU—Hours of Use

hp—Horsepower

HPWH—Heat Pump Water Heater

HRV—Heat Recovery Ventilator

HSPF—Heating Seasonal Performance Factor

HUD—Housing and Urban Development

HVAC—Heating, Ventilation, and Air Conditioning

IAQ—Indoor Air Quality

IBCA—Idaho Building Contractors Association

IBCB—Idaho Building Code Board

ID—Idaho

IDHW—Idaho Department of Health and Welfare

IDL—Integrated Design Lab

IECC—International Energy Conservation Code

IP—Internet Protocol

IPMVP—International Performance Measurement and Verification Protocol

IPUC—Idaho Public Utilities Commission

IRP—Integrated Resource Plan

ISM—In-Stadium Marketing

ISR—In-Service Rate

ISU—Idaho State University

kW—Kilowatt

kWh—Kilowatt-hour

LEEF—Local Energy Efficiency Funds

LIHEAP—Low Income Home Energy Assistance Program

LLLC—Luminaire Level Lighting Controls

M&V—Monitoring and Verification

MPER—Market Progress Evaluation Report

MVBA—Magic Valley Builders Association

MW—Megawatt

MWh—Megawatt-hour

n/a—Not Applicable

NEB—Non-Energy Benefit

NEEA—Northwest Energy Efficiency Alliance

NEEC—Northwest Energy Efficiency Council

NEEM—Northwest Energy-Efficient Manufactured Housing Program

NEMA—National Electrical Manufacturers Association

NLC—Networked Lighting Controls

NPR—National Public Radio

NREL—National Renewable Energy Laboratory's

NTG—Net to Gross

NWPCC—Northwest Power and Conservation Council

O&M—Operation and Maintenance

OPUC—Public Utility Commission of Oregon

OR—Oregon

ORS—Oregon Revised Statute

OTT—Over-the-Top

PAI—Professional Assistance Incentive

PCA—Power Cost Adjustment

PCT—Participant Cost Test

PLC—Powerline Carrier

PR—Public Relations

PTCS—Performance Tested Comfort System

QA—Quality Assurance

QC—Quality Control

RBSA—Residential Building Stock Assessment

RCT—Randomized Control Trial

REEEI—Residential Energy Efficiency Education Initiative

REM—Required Energy Modeling

RESNET—Residential Energy 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

RTF—Regional Technical Forum

SAS—Statistical Analysis System

SBDI—Small Business Direct Install

SCCAP—South Central Community Action Partnership

SCE—Streamlined Custom Efficiency

SEEK—Student Energy Efficiency Kits

SEICAA—Southeastern Idaho Community Action Agency

SEM—Strategic Energy Management

SIR—Savings-to-Investment Ratio

SRVBCA—Snake River Valley Building Contractors Association

TRC—Total Resource Cost

TRM—Technical Reference Manual

TSV—Thermostatic Shower Valve

UCT—Utility Cost Test

VFD—Variable Frequency Drive

WAP—Weatherization Assistance Program

WAQC—Weatherization Assistance for Qualified Customers

WSOC—Water Supply Optimization Cohort

WWEEC—Wastewater Energy Efficiency Cohort

APPENDICES

Appendix 1. Idaho Rider, Oregon Rider, and NEEA payment amounts (January–December 2022)

Idaho Energy Efficiency Rider		
2022 Beginning Balance	$	(6,937,705)
2022 Funding plus Accrued Interest as of December 31, 2022		34,843,936
Total 2022 Funds		**27,906,231**
2022 Expenses as December 31, 2022		(31,673,550)
Ending Balance as of December 31, 2022	**$**	**(3,767,319)**
Oregon Energy Efficiency Rider		
2022 Beginning Balance	$	(683,982)
2022 Funding plus Accrued Interest as of December 31, 2022		2,123,512
Total 2022 Funds		**1,439,530**
2022 Expenses as of December 31, 2022		(1,285,478)
Ending Balance as of December 31, 2022	**$**	**154,052**
NEEA Payments		
2022 NEEA Payments as of December 31, 2022	$	2,789,937
Total	**$**	**2,789,937**

Appendix 2. 2022 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	$ 429,722	$ 24,491	$ 375,558	$ 829,771
Easy Savings: Low-Income Energy Efficiency Education	—	—	152,718	152,718
Educational Distributions	1,061,898	24,866	49	1,086,813
Energy Efficient Lighting	505,430	29,475	76	534,982
Energy House Calls	36,734	1,378	51	38,163
Heating & Cooling Efficiency Program	636,597	28,960	459	666,016
Home Energy Audit	184,650	0	208	184,858
Home Energy Reports	964,709	—	82	964,791
Multifamily Energy Savings Program	32,634	1,474	72	34,181
Oregon Residential Weatherization	—	8,825	—	8,825
Rebate Advantage	157,746	9,762	115	167,622
Residential New Construction Program	$236,962	(1,356)	126	235,732
Shade Tree Project	128,673	—	183	128,856
Weatherization Assistance for Qualified Customers	—	—	1,281,495	1,281,495
Weatherization Solutions for Eligible Customers	198,198	—	7,590	205,788
Commercial/Industrial				
Commercial and Industrial Energy Efficiency Program				
Custom Projects	8,753,084	164,248	2,595	8,919,927
New Construction	2,762,412	17,582	513	2,780,507
Retrofits	4,785,645	84,933	337	4,870,916
Commercial Energy-Saving Kits	21,604	1,140	25	22,770
Flex Peak Program	84,582	151,148	283,888	519,618
Small Business Direct Install	1,317,820	27,558	51	1,345,429
Irrigation				
Irrigation Efficiency Rewards	1,950,122	74,622	55,284	2,080,027
Irrigation Peak Rewards	569,467	272,171	7,661,502	8,503,140
Energy Efficiency/Demand Response Total	**$ 24,818,689**	**$ 921,277**	**$ 9,822,976**	**$ 35,562,943**
Market Transformation				
NEEA	2,650,440	139,497	—	2,789,937
Market Transformation Total	**$ 2,650,440**	**$ 139,497**	**$ —**	**$ 2,789,937**
Other Programs and Activities				
Commercial/Industrial Energy Efficiency Overhead	826,911	44,184	2,383	873,477
Energy Efficiency Direct Program Overhead	296,204	15,653	895	312,752
Oregon Commercial Audit	—	7,493	—	7,493
Residential Energy Efficiency Education Initiative	287,839	10,654	1,682	300,175
Residential Energy Efficiency Overhead	1,528,355	80,573	728	1,609,656
Other Programs and Activities Total	**$ 2,939,309**	**$ 158,556**	**$ 5,689**	**$ 3,103,553**
Indirect Program Expenses				
Energy Efficiency Accounting & Analysis	1,236,470	64,628	175,865	1,476,963
Energy Efficiency Advisory Group	15,575	826	20	16,421
Local Energy Efficiency Funds	—	—	—	—
Special Accounting Entries	13,068	694	—	13,762
Indirect Program Expenses Total	**$ 1,265,112**	**$ 66,148**	**$ 175,886**	**$ 1,507,146**
Grand Total	**$ 31,673,550**	**$ 1,285,478**	**$ 10,004,551**	**$ 42,963,579**

Appendix 3. 2022 DSM program activity

Program	Participants	Total Costs: Program Administrator [b]	Total Costs: Resource [c]	Savings: Annual Energy (kWh)	Savings: Peak Demand [d] (MW)	Measure Life (Years)	Nominal Levelized Costs [a]: Utility ($/kWh)	Nominal Levelized Costs [a]: Total Resource ($/kWh)
Demand Response[1]								
A/C Cool Credit	19,127 homes	$ 829,771	$ 829,771	n/a	20.1/26.8	n/a	n/a	n/a
Flex Peak Program	159 sites	519,618	519,618	n/a	24.5/30.0	n/a	n/a	n/a
Irrigation Peak Rewards	2,142 service points	8,503,140	8,503,140	n/a	155.1/255.6	n/a	n/a	n/a
Total		**$ 9,852,529**	**$ 9,852,529**		**199.7/312.4**			
Energy Efficiency								
Residential								
Easy Savings: Low-Income Energy Efficiency Education	267 HVAC tune-ups	152,718	152,718	22,755		5	1.448	1.448
Educational Distributions	49,136 kits/giveaways	1,086,813	1,086,813	3,741,954		10	0.037	0.037
Energy Efficient Lighting	370,739 lightbulbs	534,982	714,445	1,728,352		15	0.030	0.040
Energy House Calls	52 homes	38,163	38,163	54,516		18	0.062	0.062
Heating & Cooling Efficiency Program	1,080 projects	666,016	2,414,026	1,310,260		15	0.050	0.180
Home Energy Audit	425 audits	184,858	239,783	28,350		11	0.771	1.000
Home Energy Report Program[2]	104,826 treatment size	964,791	964,791	20,643,379		1	0.044	0.044
Multifamily Energy Savings Program	97 [3] units [buildings]	34,181	34,181	41,959		11	0.096	0.096
Oregon Residential Weatherization	7 audits/projects	8,825	8,825	0		45	n/a	n/a
Rebate Advantage	97 homes	167,622	402,649	255,541		44	0.043	0.104
Residential New Construction Program	109 homes	235,732	578,922	337,562		58	0.045	0.110
Shade Tree Project	1,874 trees	128,856	128,856	39,595		40	0.218	0.218
Weatherization Assistance for Qualified Customers	147 homes/non-profits	1,281,495	2,028,513	272,647		30	0.338	0.535
Weatherization Solutions for Eligible Customers	27 homes	205,788	205,788	48,233		30	0.307	0.307
Sector Total		**$ 5,690,839**	**$ 8,998,473**	**28,252,103**		**5**	**$ 0.043**	**$0.068**
Commercial/Industrial								
Commercial Energy-Saving Kits	334 kits	22,770	22,770	48,758		10	0.059	0.059
Custom Projects	106 projects	8,919,927	25,715,468	56,157,060		13	0.017	0.049
Green Motors—Industrial	9 motor rewinds		3,424	19,851		8		
New Construction	88 projects	2,780,507	3,641,930	27,615,777		12	0.011	0.015
Retrofits	525 projects	4,870,916	13,402,016	22,890,678		12	0.024	0.065
Small Business Direct Install	680 projects	1,345,429	1,345,429	3,228,365		11	0.049	0.049
Sector Total		**$ 17,939,548**	**$ 44,131,037**	**109,960,489**		**12**	**$ 0.018**	**$ 0.045**

Appendix 3. 2022 DSM Program Activity

Program	Participants	Total Costs: Program Administrator [b]	Total Costs: Resource [c]	Savings: Annual Energy (kWh)	Savings: Peak Demand [d] (MW)	Measure Life (Years)	Nominal Levelized Costs [a]: Utility ($/kWh)	Nominal Levelized Costs [a]: Total Resource ($/kWh)
Irrigation								
Green Motors—Irrigation	6 motor rewinds		$ 5,634	16,950		23	n/a	n/a
Irrigation Efficiency Reward	519 projects	$ 2,080,027	14,083,686	6,937,855		18	$ 0.027	$ 0.179
Sector Total		**$ 2,080,027**	**$ 14,089,320**	**6,954,805**		**18**	**$ 0.026**	**$ 0.179**
Energy Efficiency Portfolio Total		**$ 25,710,414**	**$ 67,218,829**	**145,440,398**		**11**	**$ 0.021**	**$ 0.55**
Market Transformation								
Northwest Energy Efficiency Alliance (codes and standards)				20,344,154				
Northwest Energy Efficiency Alliance (other initiatives)				4,103,978				
Northwest Energy Efficiency Alliance Totals[3]		**$ 2,789,937**	**$ 2,789,937**	**24,448,132**				
Other Programs and Activities								
Residential								
Residential Energy Efficiency Education Initiative		300,175	300,175					
Commercial								
Oregon Commercial Audits	12 audits	7,493	7,493					
Other								
Energy Efficiency Direct Program Overhead		2,795,885	2,795,885					
Total Program Direct Expense		**$ 41,456,433**	**$ 82,964,848**	**169,888,530**				
Indirect Program Expenses		1,507,146	1,507,146					
Total DSM Expense		**$ 42,963,579**	**$ 84,471,994**					

[a] Levelized Costs are based on financial inputs from Idaho Power's *2019 IRP Second Amended 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. Maximum actual demand reduction and maximum demand capacity.

[1] Peak Demand is the peak performance of each respective program and not combined performance on the actual system peak hour.

[2] Savings have been reduced by 0.44% to avoid double counting of savings in other energy efficiency programs.

[3] Savings are preliminary estimates provided by NEEA. Final savings for 2022 will be provided by NEEA April 2023.

Appendix 4. 2022 DSM program activity by state jurisdiction

Program	Idaho Participants	Idaho Program Administrator Costs	Idaho Demand Reduction (MW)/ Annual Energy Savings (kWh)	Oregon Participants	Oregon Program Administrator Costs	Oregon Demand Reduction (MW)/ Annual Energy Savings (kWh)
Demand Response[1]						
A/C Cool Credit	18,910 homes	$ 805,268	19.9/26.5	217 homes	$ 24,503	0.2/0.3
Flex Peak Program	150 sites	368,458	20.4/23.7	9 sites	151,159	4.1/6.3
Irrigation Peak Rewards	2,708 service points	8,230,512	150.0/247.2	64 service points	272,628	5.1/8.4
Total		**$ 9,404,239**	**190.3/297.4**		**$ 448,291**	**9.4/15.0**
Energy Efficiency						
Residential						
Easy Savings: Low-Income Energy Efficiency Education	267 HVAC tune-ups	152,718	22,755	n/a HVAC tune-ups		
Educational Distributions	47,901 kits/giveaways	1,061,944	3,644,643	1,235 kits/giveaways	24,868	97,311
Energy Efficient Lighting	349,444 lightbulbs	505,503	1,628,616	21,295 lightbulbs	29,479	99,736
Energy House Calls	50 homes	36,782	53,110	2 homes	1,380	1,406
Heating & Cooling Efficiency Program	1,053 projects	637,033	1,266,010	27 projects	28,983	44,250
Home Energy Audit	425 audits	184,858	28,350	n/a audits	0	0
Home Energy Report Program	104,826 treatment size	964,791	20,643,379	n/a treatment size	0	0
Multifamily Energy Savings Program	97 [3] units [buildings]	32,703	41,959	0 units [buildings]	1,477	0
Oregon Residential Weatherization	n/a			0 audits/projects	8,825	0
Rebate Advantage	91 homes	157,855	239,031	6 homes	9,767	16,510
Residential New Construction Program[2]	109 homes	237,087	337,562	n/a homes	-1,356	0
Shade Tree Project	1,874 trees	128,856	39,595	n/a		
Weatherization Assistance for Qualified Customers	147 homes/non-profits	1,277,717	272,647	0 homes/non-profits	3,778	0
Weatherization Solutions for Eligible Customers	27 homes	205,788	48,233	n/a homes	0	0
Sector Total		**$ 5,583,636**	**28,265,890**		**$ 107,203**	**259,213**
Commercial						
Commercial Energy-Saving Kits	317 kits	21,628	46,237	17 kits	1,142	2,520
Custom Projects	101 projects	8,755,549	55,138,409	5 projects	164,378	1,018,651
Green Motors—Industrial	9 motor rewinds		19,851	0 motor rewinds		0
New Construction	87 projects	2,762,899	27,615,610	1 project	17,608	167
Retrofits	519 projects	4,785,965	22,330,625	6 projects	84,950	560,053
Small Business Direct Install	672 projects	1,317,868	3,182,196	8 projects	27,561	46,170
Sector Total		**$ 17,643,909**	**108,332,928**		**$ 295,638**	**1,627,561**

Program	Idaho Participants	Idaho Program Administrator Costs	Idaho Demand Reduction (MW)/ Annual Energy Savings (kWh)	Oregon Participants	Oregon Program Administrator Costs	Oregon Demand Reduction (MW)/ Annual Energy Savings (kWh)
Irrigation						
Green Motors—Irrigation	6 motor rewinds		16,950	0 motor rewinds		0
Irrigation Efficiency Rewards	494 projects	2,002,642	6,686,707	25 projects	77,386	251,148
Sector Total		**$ 2,002,642**	**6,703,657**		**$ 77,386**	**251,148**
Market Transformation						
Northwest Energy Efficiency Alliance (codes and standards)			19,326,946			1,017,208
Northwest Energy Efficiency Alliance (other initiatives)			3,898,779			205,199
Northwest Energy Efficiency Alliance Totals[3]		**$ 2,650,440**	**23,225,725**		**$ 139,497**	**1,222,407**
Other Programs and Activities						
Residential						
Residential Energy Efficiency Education Initiative		289,437			10,738	
Commercial						
Oregon Commercial Audits				12 audits	7,493	
Other						
Energy Efficiency Direct Program Overhead		2,655,275			140,609	
Total Program Direct Expense		**$ 40,229,578**			**$ 1,226,855**	
Indirect Program Expenses		1,432,203			74,942	
Total Annual Savings			**166,528,201**			**3,360,329**
Total DSM Expense		**$ 41,661,782**			**$ 1,301,797**	

[1]. Peak Demand is the peak performance of each respective program and not combined performance on the actual system peak hour.

[2]. Oregon administrator costs are negative due to account adjustments. Amount charged to the Oregon rider was reversed and charged to the Idaho rider.

[3]. Savings are preliminary estimates provided by NEEA. Final savings for 2022 will be provided by NEEA April 2023.