CADMUS

2018 Washington Annual Conservation Report

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Executive Summary

Avista's Program Year (PY) 2018 *Annual Conservation Report* summarizes its annual energy efficiency achievements for its Washington electric and natural gas customers. These programs are intended to deliver a cost-effective, least-cost resource with the funding provided through Avista's Schedules 91 and 191, also known as the tariff rider, which is a non-bypassable system benefit charge applied to all electric and natural gas retail sales.

PY 2018 is the first year of the fifth Biennial Conservation Plan (BCP) for Washington's Energy Independence Act (Initiative 937 or I-937). Avista's annual target is 42,530 MWh, as reported in the *2018 Electric Annual Conservation Plan*. In PY 2018, the electric Energy Efficiency portfolio achieved 46,442 MWh and the natural gas portfolio delivered 736,986 therms in first-year annual savings.[1] Based on the target established by the *2018 Electric Annual Conservation Plan*, Avista achieved 109.2% of the Washington target while acquiring 101.6% of the PY 2018 target from the *2018 Natural Gas Annual Conservation Plan*. Table 1 shows PY 2018 savings acquired by sector and fuel.

Table 1. PY 2018 Acquired Savings by Fuel and Sector

Sector	Interim Verified Savings (kWh)	Interim Verified Savings (therms)
Nonresidential	32,834,855	100,205
Residential	13,244,864	621,381
Low Income	362,748	15,400
I-937 Total	**46,442,467**	**736,986**
Fuel Efficiency Programs	11,669,460	N/A
Portfolio Total	**58,111,927**	**736,986**

Local energy efficiency programs managed by the utility or third-party contractors delivered the above-mentioned acquisition. Avista also funds the regional market transformation effort through the Northwest Energy Efficiency Alliance (NEEA); however, reported electric energy savings, cost-effectiveness, and other related information are specific to local programs unless otherwise noted. The electric and natural gas savings are gross savings based on all program participants.

Avista judges the effectiveness of the energy efficiency portfolio based upon a number of metrics. Two of the most commonly applied metrics are the Total Resource Cost test (TRC), a benefit/cost test encompassing the entire utility ratepayer population, and the Utility Cost Test (UCT), a benefit/cost test from the perspective of the utility. Benefit/cost ratios in excess of 1.00 indicate that the benefits exceed the costs. In PY 2018, the TRC benefit/cost ratios were 1.24 for electric and 0.89 for natural gas, and the UCT benefit/cost ratios were 1.65 for electric and 1.35 for natural gas.

[1] All savings reported in the Executive Summary exclude savings from Avista's Fuel Efficiency Programs, which are reported separately in the *Program Information* and *Evaluation, Measurement, and Verification* sections.

Although the intent of this report is to look back on past performance of the previous year, successes and lessons from this process are applied during the forward-looking business planning process to inform and improve program design, including program modification or termination where necessary. Avista remains committed to continuing to deliver responsible and cost-effective energy efficiency programs to its customers.

Washington Portfolio Cost-Effectiveness

Table 2 provides a summary of benefit/cost ratios for the Washington state portfolio by sector and fuel type. From the TRC perspective, the Washington residential and nonresidential sectors are cost-effective. Table 3 and Table 4 show the cost-effectiveness of the combined electric (TRC = 1.24) and natural gas (TRC = 0.89) portfolios.

Table 2. PY 2018 Washington Portfolio Benefit Cost Ratios

Benefit Cost Ratios	Residential			Low Income			Nonresidential		
	Electric	Gas	Total	Electric	Gas	Total	Electric	Gas	Total
Total Resource Cost (TRC)	1.22	1.05	1.19	0.54	0.28	0.44	1.32	0.82	1.30
Utility Cost Test (UCT)	1.30	2.00	1.37	0.38	0.16	0.29	2.56	2.71	2.57
Participant Cost Test (PCT)	2.43	1.91	2.33	2.03	2.03	2.03	2.72	1.05	2.63
Ratepayer Impact (RIM)	0.63	0.51	0.49	0.25	0.13	0.20	0.47	0.72	0.47

Table 3. PY 2018 Washington Electric Portfolio Cost-Effectiveness Results

Cost-Effectiveness Test	Benefits	Costs	Benefit/Cost Ratio
TRC	$43,498,009	$35,005,344	1.24
UCT	$39,543,645	$23,931,501	1.65
PCT	$81,742,232	$32,008,697	2.55
RIM	$39,543,645	$84,355,760	0.47

Electric portfolio cost-effectiveness results include Multifamily Direct Install and Low Income programs.

Table 4. PY 2018 Washington Natural Gas Portfolio Cost-Effectiveness Results

Cost-Effectiveness Test	Benefits	Costs	Benefit/Cost Ratio
TRC	$4,618,781	$5,193,836	0.89
UCT	$4,198,892	$3,117,965	1.35
PCT	$8,714,788	$4,922,580	1.77
RIM	$4,198,892	$8,986,117	0.47

Natural gas portfolio cost-effectiveness results include Multifamily Direct Install and Low Income programs.

Tariff Rider Balances

As of the start of PY 2018, the Washington electric and natural gas (aggregate) tariff rider balances were underfunded by $15,045,591. During PY 2018, Avista collected $23.7 million in tariff rider revenue to fund energy efficiency while expending $21.2 million to operate energy efficiency programs.

During PY 2018, Avista revised its electric demand-side management (DSM) tariff rate to address the underfunded balance for electric energy efficiency programs. This rate revision resulted in higher

collections through Tariff Schedule 91, and collections exceeded expenditures by $2.5 million, leading to a year-end underfunded balance of $11.9 million. The natural gas tariff rider was not adjusted for PY 2018, and the program's operations resulted in an overfunded balance of $645,002 at the end of the year.

Table 5 illustrates the PY 2018 tariff rider activity by fuel type.

Table 5. PY 2018 Tariff Rider Activity

	Electric	Natural Gas
Beginning Balance (Underfunded)	($14,418,938)	($626,653)
Energy Efficiency Funding	$19,943,490	$3,747,835
Net Funding of Operations	**$5,524,552**	**$3,121,182**
Energy Efficiency Expenditures	($17,419,377)	($3,766,184)
Ending Balances (Underfunded)	**($11,894,825)**	**($645,002)**

Third-Party Evaluation

The measurement of portfolio energy savings has been independently verified through external third-party evaluators prior to being claimed as portfolio acquisition or being incorporated into the cost-effectiveness calculations. Avista retained Cadmus as its external evaluator to independently measure and verify PY 2018 and PY 2019 electric and natural gas portfolio results.

PY 2018 Program Highlights, Challenges, and Changes

Avista practices active management and continuous process improvement when delivering energy efficiency programs. Avista retained Cadmus to provide impact and process evaluations for the PY 2018 and PY 2019 electric and natural gas programs. As in past reporting periods, Avista has continued to use a portfolio-wide approach for evaluation to provide a comprehensive benchmark to compare against future years. Through the evaluation team's ongoing evaluation activities and through internal active management, Avista recognizes program successes and challenges throughout the biennium and practices continuous process improvement to strive for the delivery of successful and cost-effective energy efficiency programs. Some of Avista's 2018 program highlights as well as some challenges are described below.

- **Expansion of offerings for hard to reach markets:** Avista began its Multifamily Direct Install (MFDI) pilot program during the 2018 program year and it quickly became an effective tool for reaching the company's underserved population. The program serves multifamily units with low-cost energy-efficient equipment. During 2018, the pilot was adopted as a full program offering and will be part of Avista's overall portfolio of offerings for 2019.
- **Nonresidential Lighting Programs:** The Prescriptive Lighting program continues to be one of the largest programs in Avista's portfolio of energy efficiency offerings. Although savings achieved throughout 2018 were substantial, the level of overall throughput was less than in previous years. Avista is also seeing a shift by customers toward more exterior lighting projects, as the throughput in exterior lighting increased by 107% from 2017.

- **Investments made in Avista's energy efficiency program:** Avista began implementing its Nexant iEnergy platform in 2018, which will ultimately serve as an enterprise software tool for managing its energy efficiency portfolio. The software tool will help Avista gather more detailed information about each energy efficiency project along with aiding in analysis at a more granular level.

Continuing the integrated resource planning and conservation potential assessment processes, Avista reviews existing and potential programs as part of the Energy Efficiency business planning process. In 2018, through adaptive management, programs were modified to reflect updated savings and cost information that affected incentive levels.

Avista discontinued the Opower Home Energy Report program as a result of the business planning process. Avista also discontinued the ENERGY STAR® Homes offering for stick-built homes but kept the offering for manufactured homes. On the nonresidential side, Avista discontinued lighting offerings for T12 and T8 fixture replacement with high-performance T8 fixtures. Avista also applied a variety of adjustments to measure incentives based on business planning and market conditions, as detailed in the *Process Evaluation Summary* section.

Although the intent of this report is to look back on the performance of the previous year, successes and lessons from this process are applied during the forward-looking business planning process to inform and improve program design, including program modification and termination where necessary. Avista remains committed to continuing to deliver responsible and cost-effective energy efficiency programs to its customers.

Process Evaluation Summary

Cadmus conducted process evaluation activities for 2018 for all of Avista's nonresidential programs (except Energy Smart Green Grocer) and Avista's residential HVAC, Shell, and Fuel Efficiency programs. Cadmus conducted the evaluation by reviewing documents, interviewing program and implementation staff and contractors, and surveying participants.

Overall, nonresidential program participants were highly satisfied with the programs (all 19 Site Specific survey respondents, and 42 of 46 Prescriptive survey respondents).

The residential program delivery went smoothly, and except for small changes to the rebate levels outlined in the 2018 Annual Conservation Plan, the HVAC, Shell, and Fuel Efficiency programs were delivered and performed as expected. According to the survey results, the fraction of customers who were either *very satisfied* or *somewhat satisfied* with elements of the program and Avista overall ranged from 93% ("rebate amount," n=69) to 99% ("new energy-saving equipment," n=73).

Avista's MFDI pilot was also delivered smoothly and as expected. Pilot participants were generally highly satisfied with the pilot and direct install measures provided to their tenants. Participating property managers did express some confusion with the timing of the rollout of the supplemental lighting phase of the pilot.

Residential Prescriptive

Avista adjusted program rebates for the HVAC and ENERGY STAR Homes programs and for the Fuel Efficiency sector, as shown in Table 6. Avista also ended the Opower Home Energy Report program for PY 2018.

Table 6. PY 2018 Residential Prescriptive Program Rebate Changes

Program	Change	PY 2017	PY 2018
ENERGY STAR Homes	Stick-built home	$1,000	Discontinued
	Manufactured home	$800	$1,000
HVAC	Smart thermostat: self-installed	$75	$60
	Smart thermostat: contractor installed	$100	$75
	Ductless heat pump	$450	$500
	Electric to air source heat pump	$900	$700
Fuel Efficiency	Natural gas water heater[a]	$750	Discontinued

Source: *2017 Avista Energy Efficiency Standard Operating Procedures Manual* and *2018 Avista Energy Efficiency Standard Operating Procedures Manual*.

[a] Rebates were still available in PY 2018 for natural gas furnaces and water heaters installed together ($2,250).

Nonresidential Site Specific

Avista made no major design, implementation, or incentive changes to the Nonresidential sector Site Specific program path in PY 2018. More detail on PY 2018 program changes can be found in the *Nonresidential Program Changes* section.

Nonresidential Prescriptive

Avista made several incentive changes to the Food Service Equipment and Commercial Lighting programs in PY 2018, as listed in Table 7. Avista also modified the wattage range for most interior and exterior lighting products in PY 2018.[2]

Program design and configuration for the iEnergy DSM Central Software for several of Avista's nonresidential programs began in late 2017, followed by testing and the eventual production launch of the Prescriptive Lighting program in mid-September of 2018 and the Prescriptive Commercial HVAC, VFD, and Insulation program in October of 2018. Concurrently, the Commercial Grocer and Food Service program was being designed, configured, and tested for an early 2019 launch.

[2] A comparison of PY 2017 and PY 2018 Prescriptive program path lighting incentives are found in the *2018 Avista Energy Efficiency Standard Operating Procedures Manual*, p. 36-37.

Table 7. PY 2018 Nonresidential Prescriptive Program Rebate Changes

Program	Change	PY 2017	PY 2018
Commercial Lighting	Interior 4-Foot 4-Lamp T12/T8 Fixture to 2-Lamp HP T8 Fixture or Retrofit Kit	$35	$0 (measure discontinued)
	Interior 4-Foot 3-Lamp T12/T8 Fixture to 2-Lamp HP T8 Fixture or Retrofit Kit	$25	$0 (measure discontinued)
	Interior 4-Foot 2-Lamp T12/T8 Fixture to 1-Lamp HP T8 Fixture/Retrofit Kit	$18	$0 (measure discontinued)
	Interior 250-Watt HID to ≤ 140-Watt DLC-Approved LED Fixture	$180	$155
	Exterior New Construction 320-Watt and 400-Watt HID to ≤ 175-Watt DLC LED Fixture	$175	$250

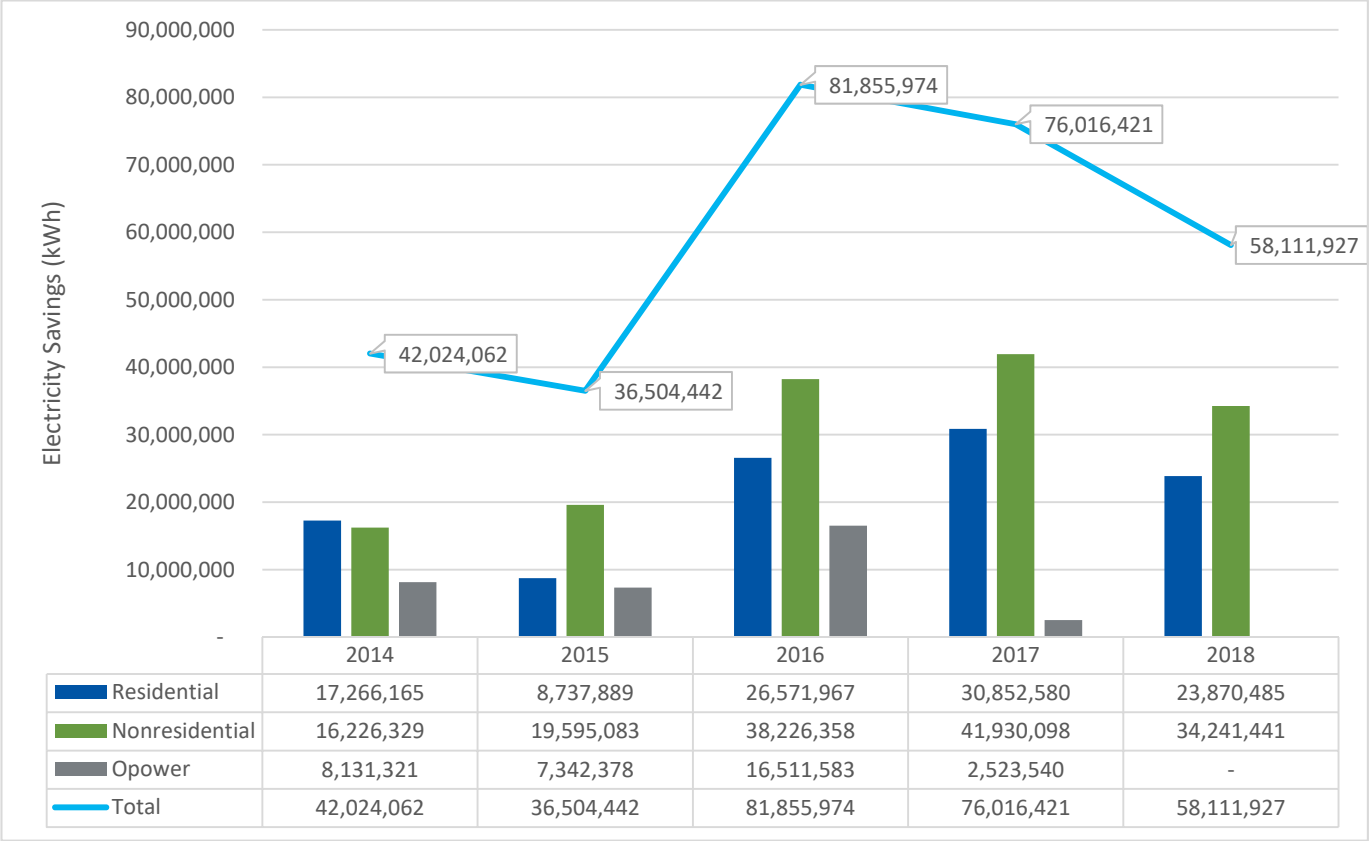
Source: *2017 Avista Energy Efficiency Standard Operating Procedures Manual* and *2018 Avista Energy Efficiency Standard Operating Procedures Manual*.

PY 2018 Portfolio Trends

Avista's Electric portfolio decreased in savings in 2018 compared to its previous years. Much of the change was attributed to the downward trend in both residential and nonresidential interior lighting (LEDs) programs because a large portion of savings from these programs was captured over the 2016-2017 biennium.

As shown in Figure 1, Avista's 58,111,927 kWh of energy savings achieved in 2018 (including Fuel Efficiency savings) is lower than its 2017 acquisition of 76,016,421 kWh. Savings acquired through the company's residential program decreased from 30,852,580 kWh in 2017 to 23,214,567 kWh in 2018, a 25% decrease**.** Nonresidential programs decreased their conservation acquisition from 41,930,098 kWh in 2017 to 34,241,441 kWh in 2018, an 18% decrease.

Figure 1. 2014-2018 Washington Electric Energy Savings



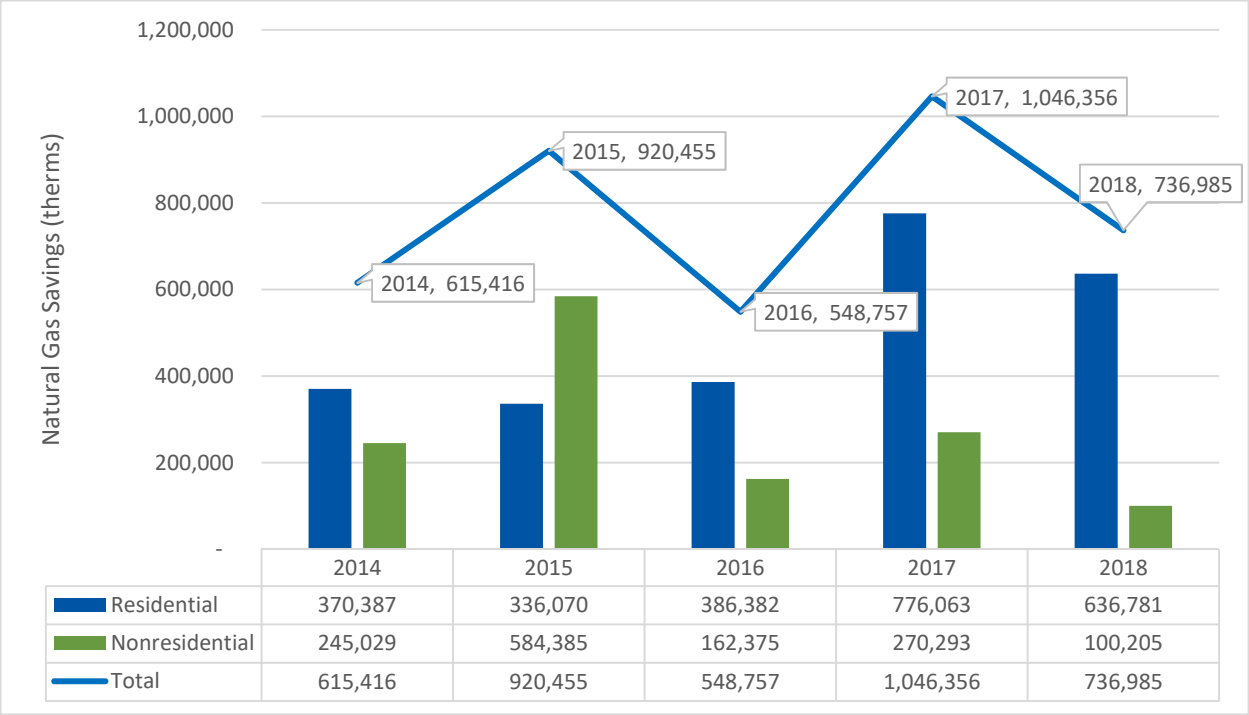
	2014	2015	2016	2017	2018
Residential	17,266,165	8,737,889	26,571,967	30,852,580	23,870,485
Nonresidential	16,226,329	19,595,083	38,226,358	41,930,098	34,241,441
Opower	8,131,321	7,342,378	16,511,583	2,523,540	-
Total	42,024,062	36,504,442	81,855,974	76,016,421	58,111,927

Low Income electric energy savings are included in the overall total. For the purpose of comparing the PY 2014–PY 2018 trend analysis data, the savings for PY 2014 are unverified gross, PY 2015 and PY 2017 are verified gross, and PY 2016 and PY 2018 are interim verified gross.

As shown in Figure 2, Avista's Natural Gas portfolio had a decrease in savings in 2018 compared to the prior year. Much of the change is attributed to the nonresidential Site Specific and residential HVAC and Water Heater programs, which declined in savings in 2018.

Avista's 736,985 therms of energy savings from 2018 is lower than its 2017 acquisition of 1,046,356 therms. Savings acquired through the company's residential program decreased from 776,063 therms in 2017 to 621,381 therms in 2018, a 20% decrease. Nonresidential programs decreased their conservation acquisition from 270,293 therms in 2017 to 100,205 therms in 2018, a 63% decrease.

Figure 2. 2014-2018 Washington Natural Gas Energy Savings

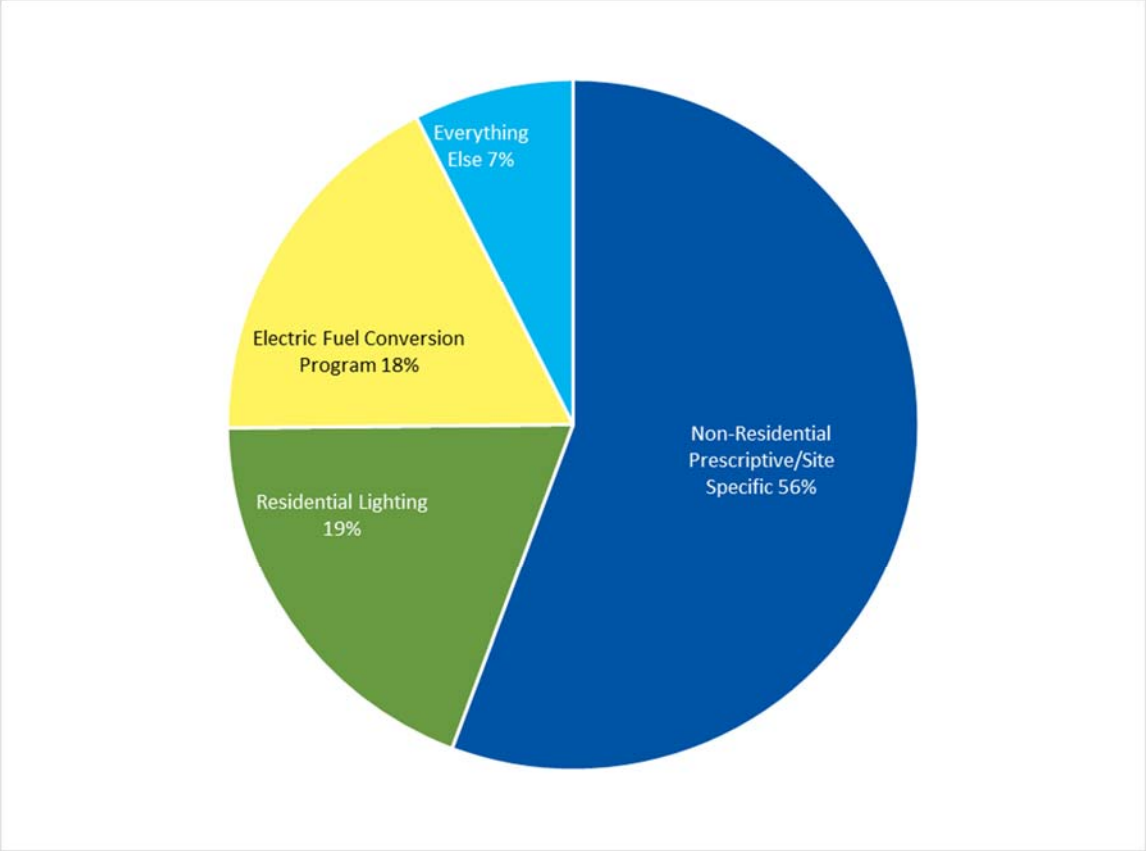


	2014	2015	2016	2017	2018
Residential	370,387	336,070	386,382	776,063	636,781
Nonresidential	245,029	584,385	162,375	270,293	100,205
Total	615,416	920,455	548,757	1,046,356	736,985

Low Income gas savings are included in the overall total. For the purpose of comparing the PY 2014–PY 2018 trend analysis data, please note that the savings for PY 2014 are unverified gross, PY 2015 and PY 2017 are verified gross, and PY 2016 and PY 2018 are interim verified gross.

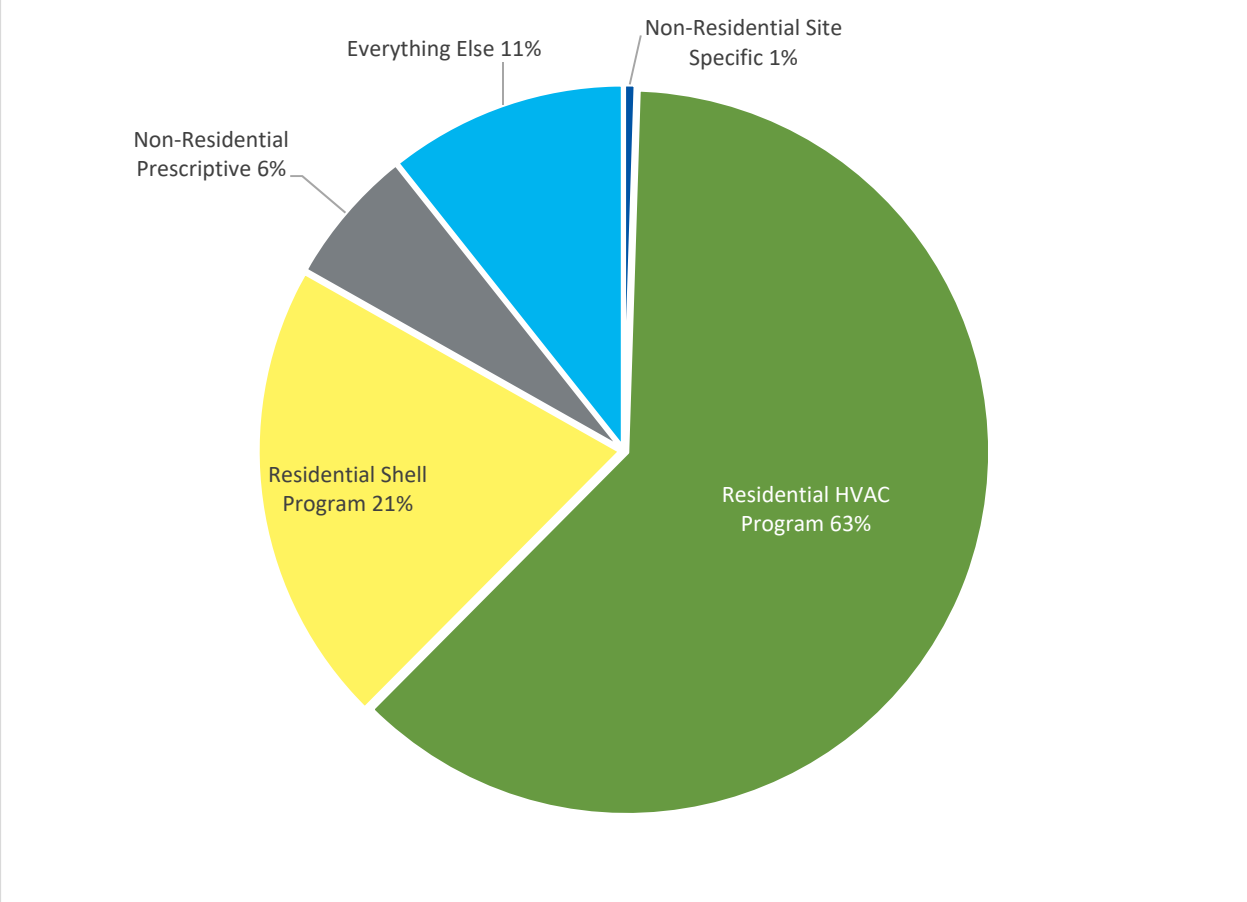
Of Avista's overall electric savings portfolio, nonresidential Prescriptive and Site Specific programs obtained 67% of the savings in 2018. These programs, combined with residential Lighting and Fuel Conversions, achieved 97% of the overall savings for 2018. Figure 3 illustrates these components.

Figure 3. 2018 Washington Electric Savings Portfolio



Of Avista's overall Natural Gas savings portfolio, residential HVAC programs obtained 63% of the savings in 2018. Residential Shell, Prescriptive, and Site Specific combined achieved 29% of the overall savings for 2018. Figure 4 illustrates these components.

Figure 4. 2018 Washington Gas Savings Portfolio



Cost-Effectiveness

For the PY 2018 evaluation period, the overall combined Electric and Natural Gas Washington portfolio was cost-effective, achieving an overall benefit/cost ratio of 1.20 from the TRC perspective and 1.62 from the UCT perspective. Table 8 shows the cost-effectiveness ratios from the various tests.

Table 8. Washington Portfolio Cost-Effectiveness Results (Combined Electric and Natural Gas)

Cost-Effectiveness Test	Benefits	Costs	Benefit/Cost Ratio
TRC	$48,116,790	$40,199,180	1.20
UCT[a]	$43,742,537	$27,049,467	1.62
PCT[b]	$90,457,020	$36,931,277	2.45
RIM[c]	$43,742,537	$93,341,877	0.47

Washington Cost-Effectiveness Results

This section contains cost-effectiveness results for Washington PY 2018 programs by sector.

Residential

Table 9 and Table 10 show residential sector cost-effectiveness results by fuel.

Table 9. Washington Residential Electric Cost-Effectiveness Results

Cost-Effectiveness Test	Benefits	Costs	Benefit/Cost Ratio
TRC	$20,704,862	$17,040,774	1.22
UCT	$18,822,602	$14,452,043	1.30
PCT	$37,404,278	$15,406,919	2.43
RIM	$18,822,602	$38,656,414	0.63

Table 10. Washington Residential Natural Gas Cost-Effectiveness Results

Cost-Effectiveness Test	Benefits	Costs	Benefit/Cost Ratio
TRC	$3,599,422	$3,441,514	1.05
UCT	$3,272,202	$1,632,402	2.00
PCT	$6,379,112	$3,346,971	1.91
RIM	$3,272,202	$6,473,656	0.51

Low Income

Table 11 through Table 12 show Low Income sector cost-effectiveness results by fuel.

Table 11. Washington Low Income Electric Cost-Effectiveness Results

Cost-Effectiveness Test	Benefits	Costs	Benefit/Cost Ratio
TRC	$683,469	$1,256,171	0.54
UCT	$621,336	$1,638,680	0.38
PCT	$2,449,202	$1,207,385	2.03
RIM	$621,336	$2,498,052	0.25

Table 12. Washington Low Income Natural Gas Cost-Effectiveness Results

Cost-Effectiveness Test	Benefits	Costs	Benefit/Cost Ratio
TRC	$213,955	$774,048	0.28
UCT	$194,505	$1,214,949	0.16
PCT	$1,412,333	$694,742	2.03
RIM	$194,505	$1,491,711	0.13

Nonresidential

Table 13 through Table 14 show Nonresidential sector cost-effectiveness results by fuel.

Table 13. Washington Nonresidential Electric Cost-Effectiveness Results

Cost-Effectiveness Test	Benefits	Costs	Benefit/Cost Ratio
TRC	$22,109,678	$16,708,399	1.32
UCT	$20,099,708	$7,840,778	2.56
PCT	$41,888,752	$15,394,393	2.72
RIM	$20,099,708	$43,201,294	0.47

Table 14. Washington Nonresidential Natural Gas Cost-Effectiveness Results

Cost-Effectiveness Test	Benefits	Costs	Benefit/Cost Ratio
TRC	$805,403	$978,274	0.82
UCT	$732,185	$270,615	2.71
PCT	$923,343	$880,867	1.05
RIM	$732,185	$1,020,750	0.72

Fuel Portfolio Cost-Effectiveness Results

This section contains cost-effectiveness results for Washington PY 2018 programs by fuel. The TRC benefit/cost ratios for the electric and natural gas portfolios are 1.24 and 0.89, respectively.

Table 15. Washington Electric Portfolio Cost-Effectiveness

Cost-Effectiveness Test	Benefits	Costs	Benefit/Cost Ratio
TRC	$43,498,009	$35,005,344	1.24
UCT	$39,543,645	$23,931,501	1.65
PCT	$81,742,232	$32,008,697	2.55
RIM	$39,543,645	$84,355,760	0.47

Table 16. Washington Natural Gas Portfolio Cost-Effectiveness

Cost-Effectiveness Test	Benefits	Costs	Benefit/Cost Ratio
TRC	$4,618,781	$5,193,836	0.89
UCT	$4,198,892	$3,117,965	1.35
PCT	$8,714,788	$4,922,580	1.77
RIM	$4,198,892	$8,986,117	0.47

Program Information

For several decades, Avista Corporation has been administering energy efficiency programs to reduce electricity and natural gas energy use for its portfolio of customers. Most of these programs have been implemented in house, but a few have external implementers. In PY 2018, Avista provided approximately 290 individual measures across 22 energy efficiency programs. The following sections provide an overview of the various programs in each sector.

Residential Sector

Avista's residential sector portfolio is composed of several approaches to engage and encourage customers to consider energy efficiency improvements within their home. Prescriptive rebate programs are the main component of the portfolio but are augmented by a variety of additional interventions: upstream buydown of low-cost lighting and water saving measures, select distribution of low-cost lighting and weatherization materials, direct install programs, and a multifaceted, multichannel outreach and customer engagement effort.

Over $4.7 million in rebates and direct customer benefits were provided to Washington residential customers to offset the cost of implementing these energy efficiency measures. All programs within the residential sector portfolio contributed 23,215 MWh and 621,381 therms to the annual energy savings.

Measure summary tables related to each program can be found in Table 17 through Table 28.

Residential Program Changes

Program changes made at the beginning of PY 2018 to the residential sector programs include adding new program offerings, discontinuing programs, and changing program eligibility or incentive levels. Avista communicates program changes once the *Annual Conservation Plan* is finalized and those changes become effective at the beginning of the year. In addition, some program changes are made throughout the year as necessary, but this practice is less typical.

The sections below describe each residential sector program offering in the portfolio along with a general description of the program, how it is implemented, and details around eligibility.

Residential ENERGY STAR Homes Program

The ENERGY STAR Homes program takes advantage of the regional and national effort to expand the U.S. Department of Energy and U.S. Environmental Protection Agency's ENERGY STAR label. Avista and partnering member utilities of NEEA have committed significant resources to develop and implement this program to set standards, train contractors, and provide third-party verification of qualifying homes. NEEA, in effect, administers the program, and Avista pays the rebate for homes that successfully make it through the process and are labeled ENERGY STAR. Additionally, after the launch of NEEA's regional effort, the manufactured homes industry established manufacturing standards and a labeling program to obtain ENERGY STAR-certified manufactured homes. Although the two approaches are unique, they both offer 15% to 25% savings versus the baseline.

The ENERGY STAR Homes program promotes to builders and homeowners a sustainable, low operating cost, environmentally friendly structure as an alternative to traditional home construction. In Washington, Avista offers both electric and natural gas energy efficiency programs and as a result has structured the program to account for homes where either a single fuel or both fuels are used for space and water heating needs. Avista continues to support the regional program to encourage sustainable building practices.

Any Washington and Idaho residential electric customer (Schedule 1) with a certified ENERGY STAR home or ENERGY STAR/ECO-rated manufactured home that is all electric is eligible. Any Washington residential electric customer (Schedule 1) with a certified ENERGY STAR home that has Avista electric for lights and appliances and Avista residential natural gas (Schedule 101) for space and water heating is eligible. For PY 2018, stick-built ENERGY STAR homes with electric heating did not pass the TRC cost-effectiveness test and were removed for this biennium.

A certified ENERGY STAR home with Avista electric or both Avista electric and natural gas service provides energy savings beyond code requirements for space heating, water heating, shell measures, lighting, and appliances. Space heating equipment can be either electric forced air or electric heat pump in Washington and Idaho or a natural gas furnace in Washington. This rebate may not be combined with other Avista individual measure rebate offers (such as high-efficiency water heaters).

Residential HVAC Program

Through the HVAC program, Avista encourages residential customers to select a high-efficiency solution when making energy upgrades to their home. This prescriptive rebate approach issues payment to the customer after the measure has been installed. Energy efficiency marketing efforts build considerable awareness of opportunities in the home and drive customers to the website for rebate information. Vendors generate participation using the rebate as a sales tool for their services. Utility website promotion, vendor training, retail location visits, and presentations at various customer events throughout the year are some additional communication methods that encourage program participation.

Overall, residential customers continue to respond well to the program. High-efficiency natural gas furnaces provide the largest portion of the natural gas savings for the residential sector portfolio.

Washington electric customers (Schedule 1) who heat their homes with Avista electricity may be eligible for a rebate for the installation of a variable speed motor on their forced air heating equipment or for converting their electric straight resistance space heating to an air-source heat pump. Any Washington residential natural gas customers (Schedule 101) who heat their homes with natural gas may be eligible for a rebate for installing a high-efficiency natural gas furnace or boiler.

Avista reviews energy usage as part of the program eligibility requirements. Customers must demonstrate a heating season electricity usage of 8,000 kWh and less than 340 therms for replacement of electric straight resistance to air-source heat pump and ductless heat pump. High-efficiency natural gas furnaces and boilers must have 90% annual fuel utilization efficiency (AFUE) or greater. Tankless

water heaters must have an efficiency of 0.82 energy factor (EF) or higher. Ductless heat pumps must be 9.0 heating seasonal performance factor (HSPF) or greater. Heat pump water heaters must have an efficiency of 180% or higher. The supporting documentation required for participation includes but may not be limited to copies of project invoices and Air Conditioning, Heating, and Refrigeration Institute (AHRI) certification.

Residential Shell Program

The Shell program encourages residential customers to improve their home's shell or exterior envelope with upgrades to windows and storm windows. This prescriptive rebate approach issues payment to the customer after the measure has been installed. Energy efficiency marketing efforts build considerable awareness of opportunities in the home and drive customers to the website for rebate information. Vendors generate participation using the rebate as a sales tool for their services. Utility website promotion, vendor training, retail location visits, and presentations at various customer events throughout the year are some additional communication methods that encourage program participation.

Washington and Idaho residential electric customers (Schedule 1) who heat their homes with Avista electric are eligible to apply. Washington residential natural gas customers (Schedule 101) who heat their homes with natural gas are also eligible to apply.

Storm windows (interior/exterior) must be new, the same size as the existing window, and not in direct contact with the existing window, and exterior windows' low-e coating must be facing the interior of the home. Glazing material emissivity must be less than 0.22 with a solar transmittance greater than 0.55. Windows must have a U-factor rating of 0.30 or lower.

Avista will review energy usage as part of the program eligibility requirements. Customers in Washington and Idaho with electric heated homes must demonstrate a heating season usage of 8,000 kWh. Customers in Washington with natural gas heated homes must demonstrate a heating season usage of 340 therms.

Residential Fuel Efficiency Program

The Fuel Efficiency rebate encourages customers to consider converting their resistive electric space and water heating to natural gas. The direct use of natural gas continues to be the most efficient fuel choice when available, and over time offers the most economic value in the operating costs of the equipment. Since the early 1990s, Avista has offered a conversion rebate. Although natural gas prices have fallen in recent years, the cost of infrastructure continues to rise, both for the utility and for a customer's installation cost for this particular measure. For the PY 2018 and PY 2019 biennium, conversions to natural gas water heaters no longer have a stand-alone rebate. For this biennium, Avista provides a combination rebate for water heater conversions to natural gas furnaces.

Avista pays this prescriptive rebate upon the measure installation and receipt of all relevant documentation. A customer's minimum qualifications include using Avista electricity for electric straight resistance heating or water heating, which is verified by evaluating their energy use. Energy efficiency

marketing efforts build considerable awareness of opportunities in the home and drive customers to the website for rebate information. Vendors generate participation using the rebate as a sales tool for their services. Utility website promotion, vendor training, retail location visits, and presentations at various customer events throughout the year are some additional communication methods that encourage program participation.

Residential electric customers (Schedule 1) in Idaho and Washington who heat their homes or water with Avista electricity may be eligible for a rebate for converting to natural gas. The home's electric baseboard or furnace heat consumption must indicate a use of 8,000 kWh or more during the previous heating season (and less than 340 therms).

Avista will end the Fuel Efficiency program in 2019. The energy savings from the Fuel Efficiency program do not count toward I-937 targets and will not be included in the overall I-937 savings achieved at the end of the 2018-2019 biennium.

Simple Steps, Smart Savings Program

Simple Step, Smart Savings™ is a regional program designed to increase the adoption of energy-efficient residential products. To achieve energy savings, residential consumers are encouraged to purchase and install high-quality LED bulbs, light fixtures, energy-saving showerheads, and ENERGY STAR appliances.

Simple Steps, Smart Savings continues to provide the region's best opportunity to collectively influence both retail stocking practices and consumer purchasing. There continue to be opportunities for efficient lighting improvements in customer residences, as many residences still have inefficient bulbs plugged into residential lighting sockets. Incentives also encourage customers to increase efficiency before burnout of the existing less-efficient lighting. Energy savings claimed are based on Regional Technical Forum deemed savings.

The key drivers to delivering on the objectives of this program are the incentives to encourage customer interest and the marketing efforts to drive customers to using the program. The upstream model for lighting and showerheads uses a manufacturer partnership to buy down the cost of products and allow for greater flexibility of how money is used (such as for markdowns or marketing).

Avista contracted with CLEAResult to provide manufacturer and retail coordination. CLEAResult is responsible for coordinating program marketing efforts, performing outreach to retailers, ensuring that the proper program tracking is in place, and coordinating all implementation aspects of the program. Big-box retailers and select regional and national mass-market chains are the primary recipients of Simple Steps, Smart Savings products and typically offer a variety of these products. These products include LED bulbs such as general purpose, dimmable, decorative, mini-base, globe, reflectors, and outdoor lights, as well as three-way ENERGY STAR LED fixtures and showerheads with 2.0 gallons per minute (GPM), 1.75 GPM, 1.5 GPM ratings. These products are clearly identified with point-of-purchase tags indicating they are part of the program.

Simple Steps, Smart Savings is available at retail locations with allocations among participating utilities based on an estimated percentage of customers shopping at specific locations.

Multifamily Direct Install Program and Supplemental Lighting

The Multifamily Direct Install (MFDI) program is administered by SBW Consulting, Inc., and is a direct installation and audit program providing customer energy efficiency opportunities through these activities:

- Directly installing appropriate energy-saving measures at each target site
- Conducting a brief on-site audit to identify customer opportunities and interest in existing Avista programs
- Providing materials and contact information so that customers are able to follow up with additional energy efficiency measures under existing programs.

Direct install measures include faucet aerators, showerheads, screw-in LEDs, smart power strips, and vending misers in common areas.

This program is available only to customers who receive electric service from Avista and have a five-unit or more multifamily property. This program ran as a pilot for several months before it was turned into a program in late PY 2018. Additionally, Avista ran a pilot for common area supplemental lighting that was also turned into a program for properties that had been audited and treated through the direct install program.

Residential Sector Measure Summary

Table 17 through Table 28 provide more detail for PY 2018 first-year program participation, incentives received, and savings achieved for all the residential sector programs.

Table 17. 2018 Washington Electric Residential HVAC Program

Measure	Project Count	Incentives	kWh	Therms	kWh Avoided Costs	Non-Energy Benefits	Customer Incremental Cost	Non-Incentive Utility Costs
E Electric To Air Source Heat Pump	63	$44,100	359,746	0	$45,093	$0	$354,572	$27,493
E Electric to Ductless Heat Pump	67	$33,100	297,385	0	$241,295	$76,649	$461,999	$22,727
E Smart Thermostat DIY with Electric Heat	59	$3,690	42,414	0	$25,146	$0	$7,199	$3,241
E Smart Thermostat Paid Install with Electric Heat	46	$3,529	33,068	0	$1,875	$0	$18,014	$2,527
E Variable Speed Motor	920	$73,760	371,913	0	$414,908	$0	$987,132	$28,423
Total	**1,155**	**$158,179**	**1,104,527**	**0**	**$728,317**	**$76,649**	**$1,828,916**	**$84,413**

Table 18. 2018 Washington Natural Gas Residential HVAC Program Summary

Measure	Project Count	Incentives	kWh	Therms	Therm Avoided Costs	Non-Energy Benefits	Customer Incremental Cost	Non-Incentive Utility Costs
G Multifamily Furnace	29	$1,450	0	2,958	$24,387	$0	$63,203	$1,093
G Natural Gas Boiler	53	$15,900	0	5,406	$44,569	$0	$357,252	$1,998
G Natural Gas Furnace	3,452	$1,036,657	0	352,104	$2,425,172	$0	$11,920,927	$130,139
G Smart Thermostat DIY with Natural Gas Heat	624	$39,428	0	16,224	$103,304	$0	$341,138	$5,996
G Smart Thermostat Paid Install with Natural Gas Heat	1,243	$97,400	0	32,318	$205,780	$0	$481,970	$11,945
Total	**5,401**	**$1,190,835**	**0**	**409,010**	**$2,803,213**	**$0**	**$13,164,490**	**$151,172**

Table 19. 2018 Washington Electric Residential Water Heat Program Summary

Measure	Project Count*	Incentives	kWh	Therms	kWh Avoided Costs	Non-Energy Benefits	Customer Incremental Cost	Non-Incentive Utility Costs
Plumbing : Showerhead : Any : 1.50	270	$0	22,631	0	$9,368	$0	$1,620	$1,729.59
Plumbing : Showerhead : Any : 1.75	253	$0	13,791	0	$5,709	$0	$138	$1,054
Plumbing : Showerhead : Any : 2.00	2,220	$0	44,311	0	$18,343	$0	$4,874	$3,386
Clothes Washers	209	$0	22,693	0	$9,399	$0	$11,495	$1,734
E Heat Pump Water Heater	82	$16,400	89,071	0	$7,991	$0	$131,288	$6,807.21
Total	**3,034**	**$16,400**	**192,498**	**0**	**$50,810**	**$0**	**$149,416**	**$14,712**

*Showerhead project counts are the same for electric and gas measures because the savings for each fuel are calculated and apportioned based on the total number of purchased showerheads.

Table 20. 2018 Washington Gas Residential Water Heat Program Summary

Measure	Project Count*	Incentives	kWh	Therms	Therm Avoided Costs	Non-Energy Benefits	Customer Incremental Cost	Non-Incentive Utility Costs
Plumbing : Showerhead : Any : 1.50	270	$0	0	1,080	$4,743	$0	$0	$399
Plumbing : Showerhead : Any : 1.75	253	$0	0	759	$3,333	$0	$0	$281
Plumbing : Showerhead : Any : 2.00	2,220	$0	0	4,440	$19,499	$0	$0	$1,641
G Tankless Water Heater	686	$137,600	0	47,472	$387,722	$0	$1,300,737	$17,546
Total	**3,429**	**$137,600**	**0**	**53,751**	**$415,297**	**$0**	**1,300,737**	**19,867**

*Showerhead project counts are the same for electric and gas measures because the savings for each fuel are calculated and apportioned based on the total number of purchased showerheads.

Table 21. 2018 Washington ENERGY STAR Homes Electric Program Summary

Measure	Project Count	Incentives	kWh	Therms	kWh Avoided Costs	Non-Energy Benefits	Customer Incremental Cost	Non-Incentive Utility Costs
E ENERGY STAR Home - Manufactured, Furnace	15	$15,000	49,440	0	$51,846	$5,205	$30,000	$3,778
Total	**15**	**$15,000**	**49,440**	**0**	**$51,846**	**$5,205**	**$30,000**	**$3,778**

Table 22. 2018 Washington ENERGY STAR Homes Natural Gas Program Summary

Measure	Project Count	Incentives	kWh	Therms	Therm Avoided Costs	Non-Energy Benefits	Customer Incremental Cost	Non-Incentive Utility Costs
G ENERGY STAR Home - Gas & Electric, WA	1	$1,000	3,296	203	$1,984	$0	$2,000	$75
G ENERGY STAR Home - Natural Gas Only	1	$650	0	203	$1,984	$0	$2,350	$75
Total	**2**	**$1,650**	**3,296**	**406**	**$3,968**	**$0**	**$4,350**	**$150**

Table 23. 2018 Washington Electric Residential Fuel Conversion Program Summary

Measure	Project Count	Incentives	kWh	Therms	kWh Avoided Costs	Non-Energy Benefits	Customer Incremental Cost	Non-Incentive Utility Costs
E Electric To Natural Gas Furnace	463	$693,300	3,331,828	(157,420)	$3,725,082	$0	$1,350,049	$254,632
E Electric To Natural Gas Furnace & Water Heat	529	$1,187,250	5,707,128	(294,124)	$5,526,269	$0	$2,123,629	$436,163
E Electric To Natural Gas Wall Heater	31	$40,300	314,994	(14,446)	$352,173	$0	$74,875	$24,073
E Electric To Natural Gas Water Heater	81	$60,750	290,980	(17,496)	$146,962	$0	$176,646	$22,238
E Multifamily Electric to Natural Gas Furnace	8	$2,800	57,569	(2,720)	$64,364	$0	$26,308	$4,400
E Multifamily Electric to Natural Gas Furnace and Water Heat	21	$14,700	226,559	(11,676)	$219,379	$0	$65,030	$17,315
E Multifamily Electric to Natural Gas Water Heater	4	$1,400	40,644	(1,864)	$22,989	$0	$12,773	$3,106
Total	**1,137**	**$2,000,500**	**9,969,704**	**(499,746)***	**$10,057,218**	**$0**	**$3,829,312**	**$761,927**

* Negative gas savings from the Fuel Conversion Program are not accounted for in the total portfolio therm savings.

Table 24. 2018 Washington Electric Residential Lighting Program Summary

Measure	Project Count	Incentives	kWh	Therms	kWh Avoided Costs	Non-Energy Benefits	Customer Incremental Cost	Non-Incentive Utility Costs
Simple Steps LED	713,024	$648,419	9,572,603	0	$6,746,351	$0	$518,751	$731,579
Total	713,024	$648,419	9,572,603	0	$6,746,351	$0	$518,751	**$731,579**

Table 25. 2018 Washington Electric Residential Shell Program Summary

Measure	Project Count	Incentives	kWh	Therms	kWh Avoided Costs	Non-Energy Benefits	Customer Incremental Cost	Non-incentive Utility Costs
E Storm Window with Electric Heat	2	$176	1,274	0	$16	$159	$13,699	$97
E Window Replc from Single Pane W Electric Heat	183	$32,115	229,712	0	$5,770	$742	$1,179,458	$17,556
Total	**185**	**$32,291**	**230,986**	**0**	**$5,786**	**$901**	**$1,193,157**	**$17,653**

Table 26. 2018 Washington Natural Gas Residential Shell Program Summary

Measure	Project Count	Incentives	kWh	Therms	Therm Avoided Costs	Non-Energy Benefits	Customer Incremental Cost	Non-incentive Utility Costs
G Storm Windows with Natural Gas Heat	3	$515	0	187	$11	$0	$25,775	$69
G Window Replc With Natural Gas Heat	615	$111,761	0	152,635	$17,581	$0	$9,905,695	$56,415
Total	**618**	**$112,276**	**0**	**152,822**	**$17,591**	**$0**	**$9,931,470**	**$56,484**

Table 27. 2018 Washington Electric Multifamily Direct Install Program Summary

Measure	Project Count	Incentives	kWh	Therms	kWh Avoided Costs	Non-Energy Benefits	Customer Incremental Cost	Non-incentive Utility Costs
Multifamily Direct Install Measures	4,961	$1,346,914	2,091,514	0	$1,178,817	$0	$ 1,346,914	$159,842
Total	**4,961**	**$1,346,914**	**2,091,514**	**0**	**1,178,817**	**$0**	**$ 1,346,914**	**159,842**

* The evaluator was unable to calculate the cost-effectiveness and avoided costs for this measure in time for the draft report. Updated results will be included with the final report.

Table 28. 2018 Washington Natural Gas Multifamily Direct Install Program Summary

Measure	Project Count	Incentives	kWh	Therms	Therm Avoided Costs	Non-Energy Benefits	Customer Incremental Cost	Non-incentive Utility Costs
Multifamily Direct Install Measures	4,961	$45,580	0	5,392	$32,133	$0	$ 45,580	$1,993
Total	**4,961**	**$45,580**	**0**	**5,392**	**32,133**	**$0**	**$ 45,580**	**1,993**

* The evaluator was unable to calculate the cost-effectiveness and avoided costs for this measure in time for the draft report. Updated results will be included with the final report.

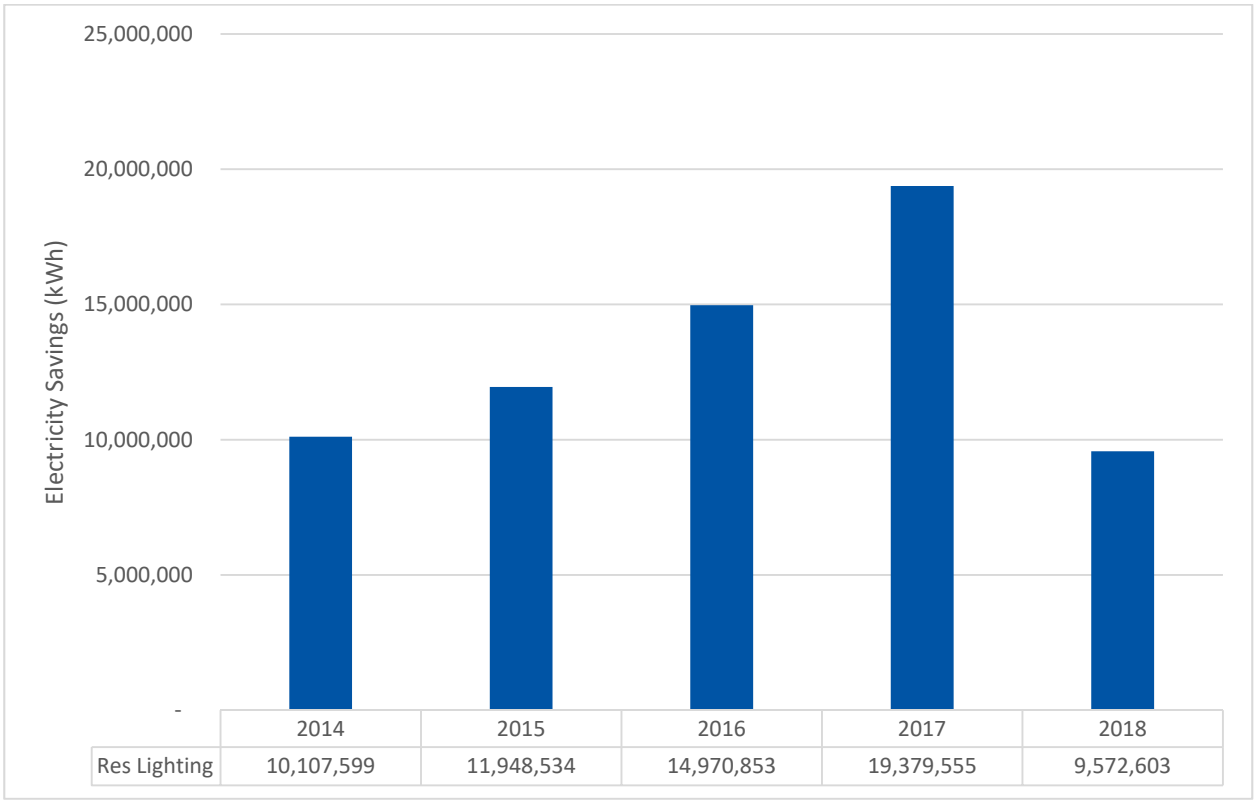
PY 2018 Residential Trend Analysis

Residential Electric Lighting

In PY 2018, the residential lighting program obtained 9,572,603 kWh of savings, which represents 16% of the overall savings achieved by Avista's portfolio. Historically, Avista saw an increase in participation from the residential lighting program due to the increasing popularity of LED lighting. PY 2018 brought a downward trend with a 50% decrease in savings over PY 2017, which can be attributed to the achievements of the program over the PY 2016–PY 2017 biennium.

The Simple Steps, Smart Savings program delivered incentives for 713,024 individual units in PY 2018, comparable to the 794,987 units from PY 2017. However, unit energy savings were lower in 2018 than in 2017. On average, 2018 per-unit savings were 13.43 kWh compared to 24.6 kWh in 2017, and this reduction alone accounts for approximately 7,765,000 of reduced savings for residential lighting. Figure 5 illustrates the trend of residential lighting between 2014 and 2018.

Figure 5. 2014-2018 Residential Electric Lighting Savings Trends

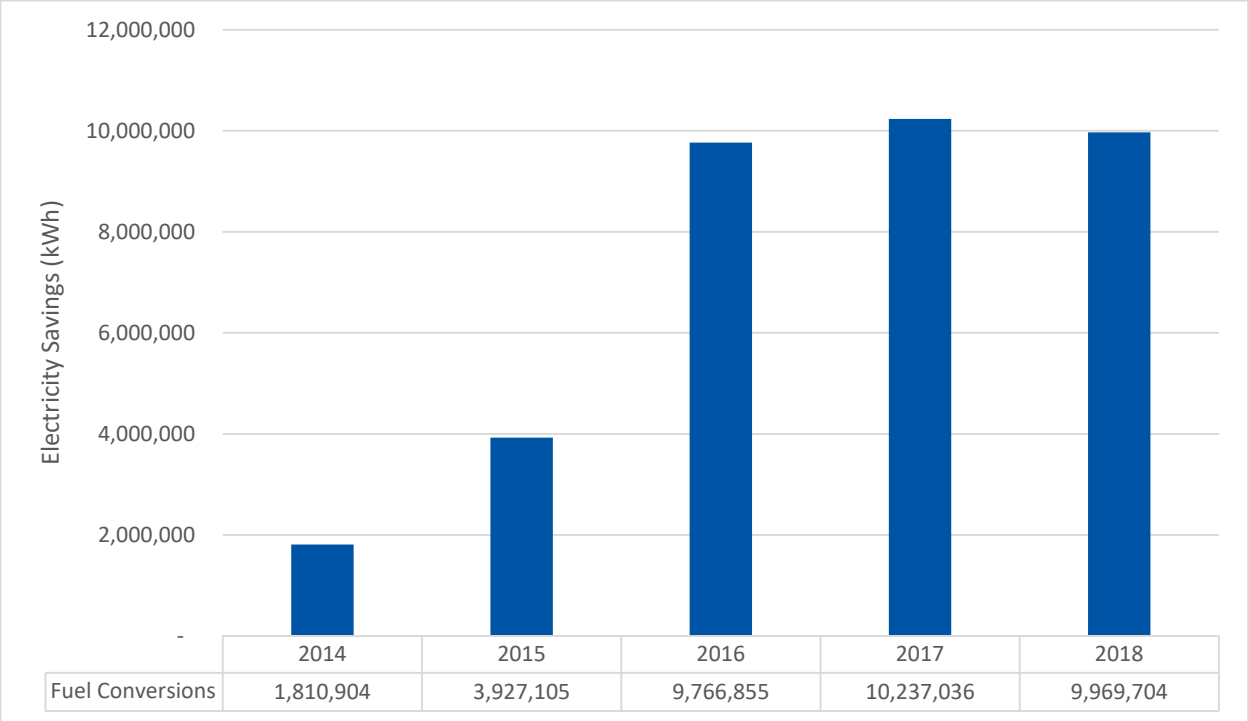


For the purpose of comparing the PY 2014–PY 2018 trend analysis data, please note that the savings for PY 2014 are unverified gross, for PY 2015 and PY 2017 are verified gross, and for PY 2016 and PY 2018 are interim verified gross.

Residential Fuel Efficiency Program

The Fuel Efficiency program obtained 9,969,704 kWh in savings in 2018, a decrease of 3% from the 10,237,036 achieved in 2017. In total, Avista served 1,137 customers in 2018, with the majority choosing to convert both their furnace and water heater (utilizing the "combo measure"). In the prior year, Avista served 1,866 customers, with a similar share pursuing the combo measure. This program will be coming to a close at the end of 2019. Figure 6 illustrates the trend in savings for the 2014-2018 period.

Figure 6. 2014-2018 Residential Fuel Efficiency Savings Trends



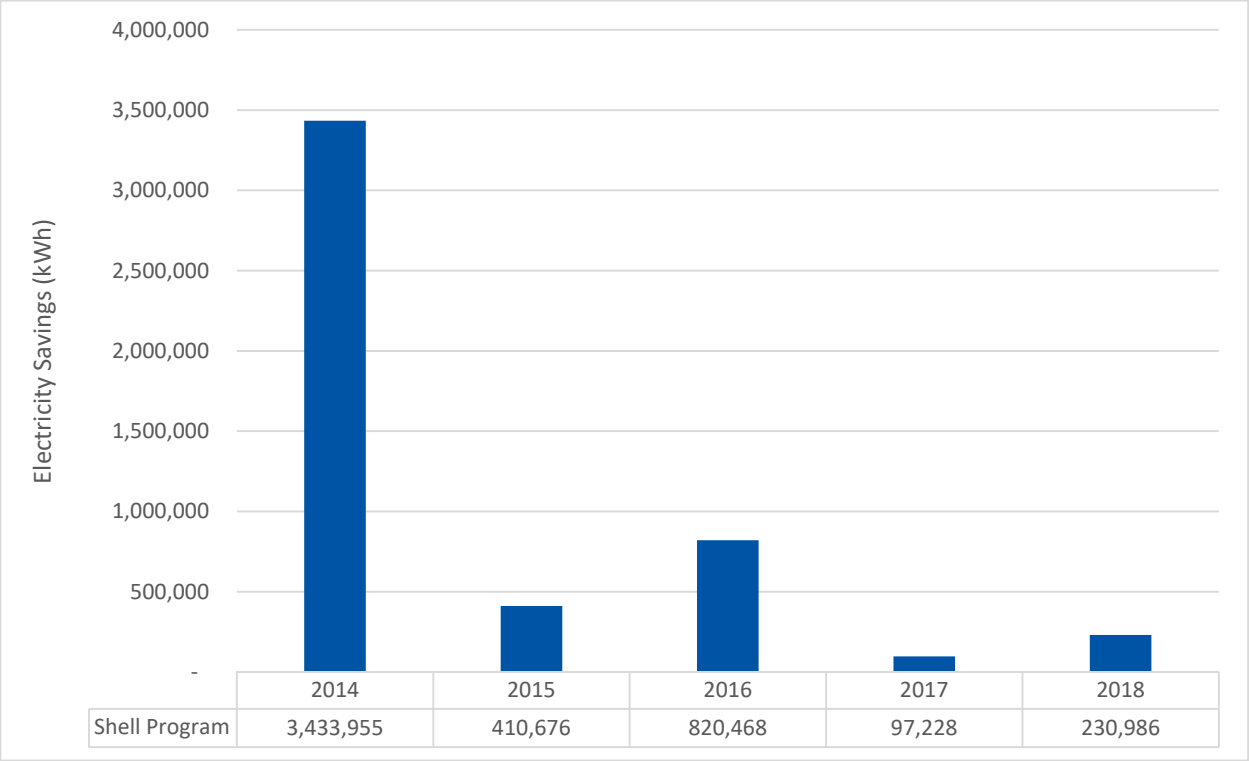
	2014	2015	2016	2017	2018
Fuel Conversions	1,810,904	3,927,105	9,766,855	10,237,036	9,969,704

For the purpose of comparing the PY 2014–PY 2018 trend analysis data, please note that the savings for PY 2014 are unverified gross, PY 2015 and PY 2017 are verified gross, and PY 2016 and PY 2018 are interim verified gross.

Residential Electric Shell Program

The residential electric Shell program obtained residential savings of 230,986 kWh in 2018, which represents less than 1% of the overall savings achieved in Avista's portfolio. The program saw a 137% increase in savings over the 97,228 kWh achieved in 2017. The savings derived from the residential Electric Shell program are primarily attributed to single-pane window replacements. Note that the main driver of savings in 2014 is a result of the UCONS duct-sealing program. Figure 7 illustrates the trend in savings of the electric Shell program between 2014 and 2018.

Figure 7. 2014-2018 Residential Electric Shell Savings Trends

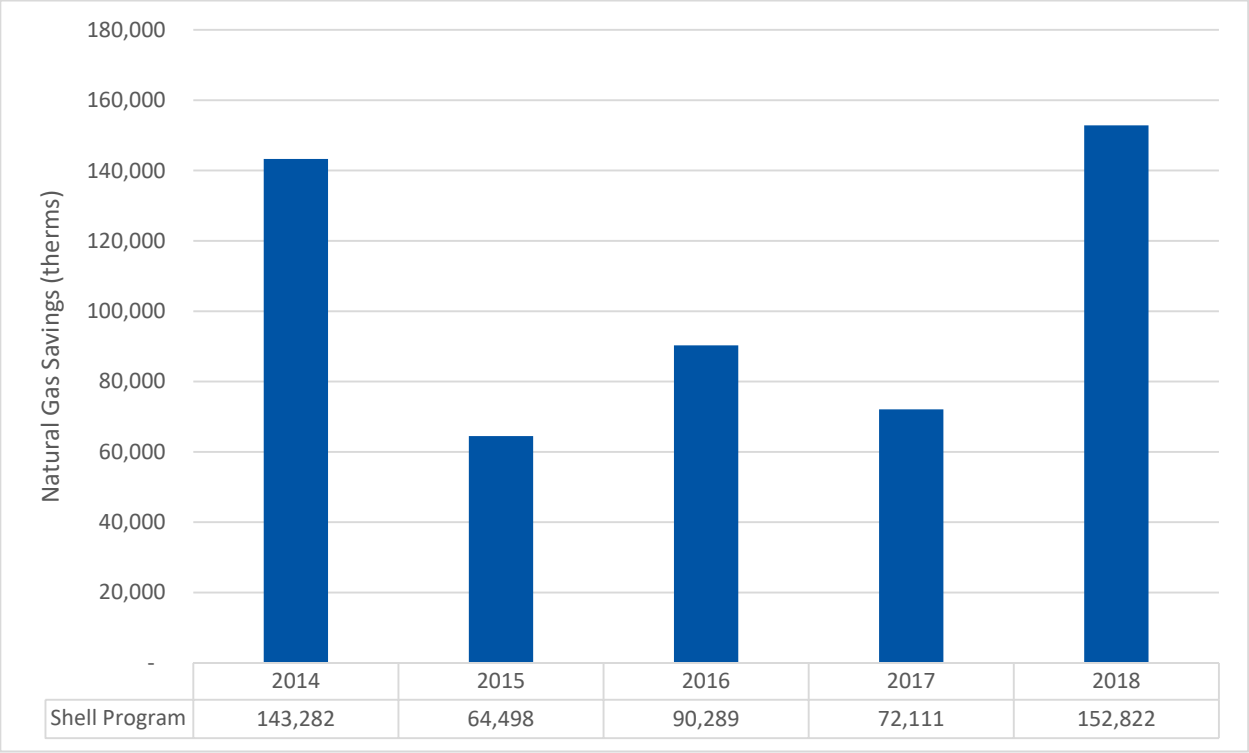


For the purpose of comparing the PY 2014–PY 2018 trend analysis data, please note that the savings for PY 2014 are unverified gross, for PY 2015 and PY 2017 are verified gross, and for PY 2016 and PY 2018 are interim verified gross.

Residential Gas Shell Program

The residential gas Shell program obtained savings of 152,822 therms in 2018, which represents 21% of the overall savings achieved in Avista's portfolio. The program saw a 111% increase in savings over the 72,111 therms achieved in 2017. The savings derived from the program are primarily attributed to single-pane window replacements. Figure 8 illustrates the trend in savings of the gas Shell program between 2014 and 2018.

Figure 8. 2014-2018 Washington Residential Gas Shell Savings Trends



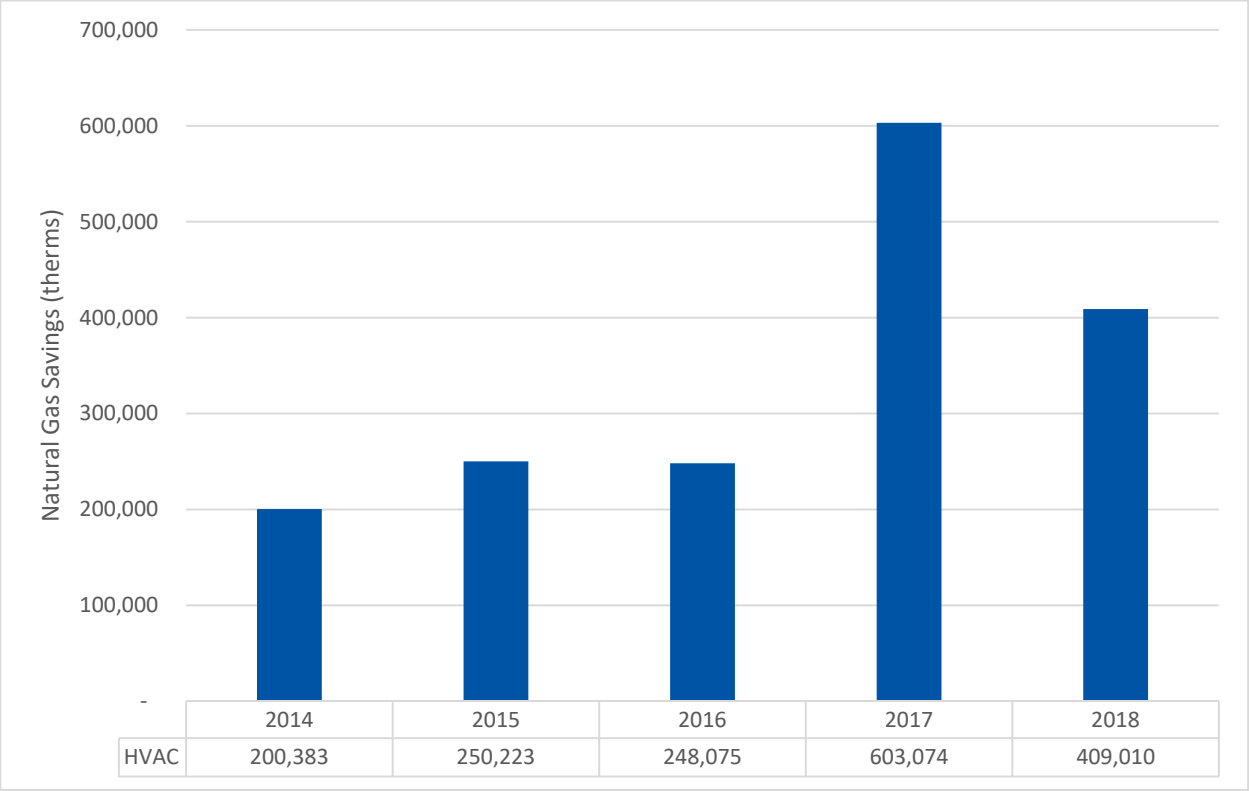
For the purpose of comparing the PY 2014–PY 2018 trend analysis data, please note that the savings for PY 2014 are unverified gross, PY 2015 and PY 2017 are verified gross, and PY 2016 and PY 2018 are interim verified gross.

Residential Gas HVAC Program

The residential gas HVAC program obtained savings of 409,010 therms in 2018, which represents 62% of the overall savings achieved in Avista's portfolio. The program saw a 24% decrease in savings over the 603,074 therms achieved in 2017. For 2018, Avista revised its unit energy savings for residential high-efficiency furnaces, which resulted in a decrease of approximately 35 therms per unit. The revised per-unit savings resulted in lower overall energy achievement of approximately 121,000 therms for the one measure alone. Avista will continue to monitor the realization rates related to this and all measures so the most accurate unit energy savings can be used.

Figure 9 illustrates the trend in savings of the HVAC program between 2014 and 2018.

Figure 9. 2014-2018 Washington Gas HVAC Savings Trends

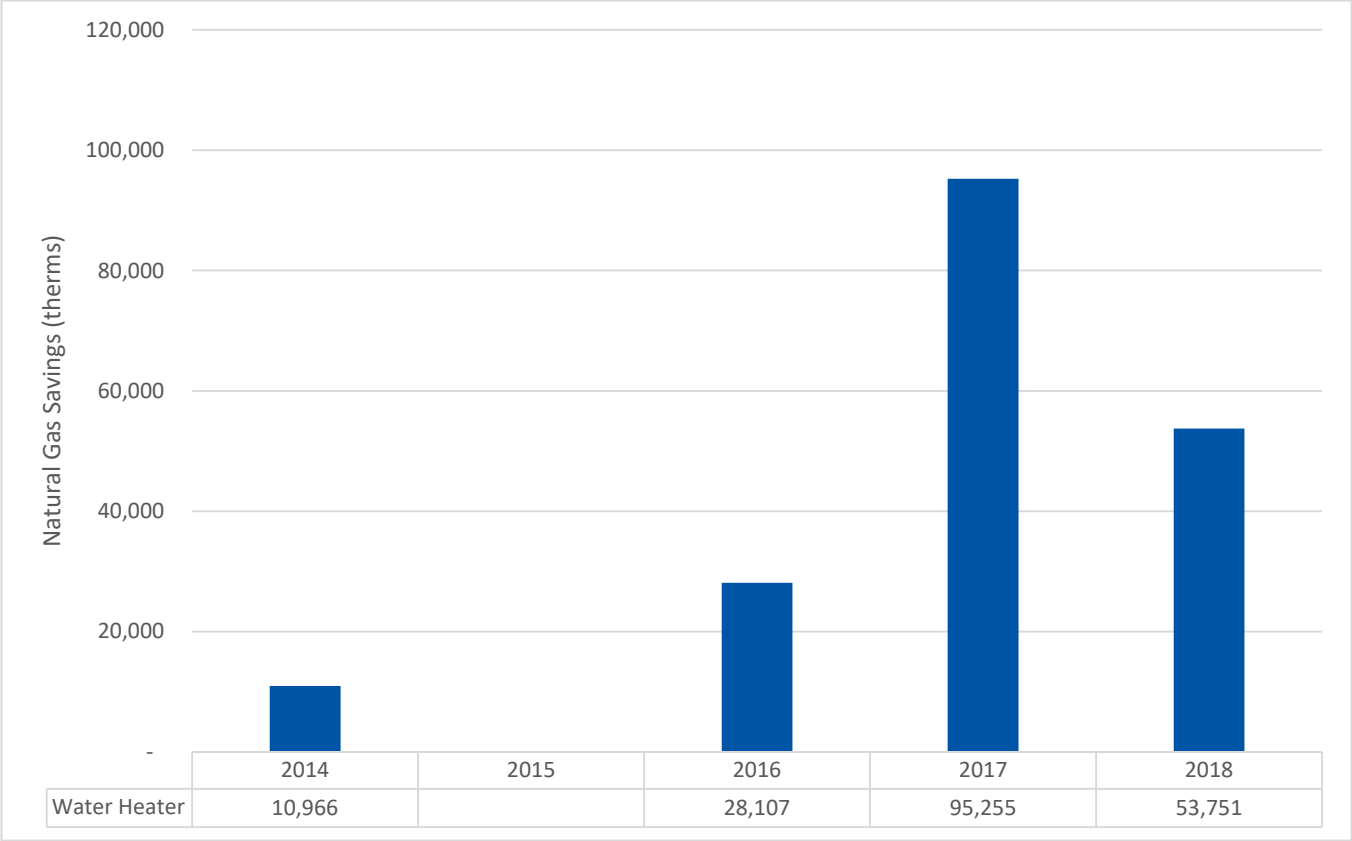


For the purpose of comparing the PY 2014–PY 2018 trend analysis data, please note that the savings for PY 2014 are unverified gross, PY 2015 and PY 2017 are verified gross, and PY 2016 and PY 2018 are interim verified gross.

Residential Gas Water Heating

The residential gas Water Heating program obtained savings of 53,751 therms in 2018, which represents 7% of the overall savings achieved in Avista's portfolio. The program saw a 43% decrease in savings over the 95,255 therms achieved in 2017. Figure 10 illustrates the trend in savings of the Water Heater program between 2014 and 2018.

Figure 10. 2014-2018 Washington Gas Water Heating Savings Trends



	2014	2015	2016	2017	2018
Water Heater	10,966		28,107	95,255	53,751

For the purpose of comparing the PY 2014–PY 2018 trend analysis data, please note that the savings for PY 2014 are unverified gross, PY 2015 and PY 2017 are verified gross, and PY 2016 and PY 2018 are interim verified gross.

Low Income Sector

Avista relies on five network Community Action Program agencies and one tribal weatherization organization to deliver energy efficiency programs for low income residential customers in its Washington service territory. Community Action Program agencies have resources to qualify income and to prioritize and treat customers' homes based on a variety of characteristics. In addition to Avista's annual funding, the agencies have other monetary resources they can access to weatherize a home or install other energy efficiency measures. The agencies have either in-house or contract crews that install the eligible program measures.

Low Income Program Changes

In PY 2018, the Washington Gorge Action program was in transition—it was phasing out its weatherization program and, as a result, did not sign a contract with Avista to perform these services for Klickitat and Skamania counties. The program serves a small portion of Avista's natural gas customers in the Goldendale/Stevenson area. The Washington State Department of Commerce is responsible for coordinating a new agency to fill this need, which should occur sometime in PY 2019. Avista will be in contact with the organization that is awarded the jurisdiction to coordinate future funding opportunities.

In May and June 2018, Avista was ordered to contribute an additional $350,000 in weatherization funding to Washington agency contracts.[3] This brought the total Low Income program to $2,350,000 for the entire Washington service territory. Due to the timing of the order, a portion of the funding was allocated to the agencies for PY 2018 that believed they could spend the additional funds. In future years, the total amount will be allocated based on the number of meters in each agency's jurisdiction.

Avista continued to reimburse the agencies 100% of the cost of installing most of the energy efficiency measures defined on the Approved Measure List and deemed cost-effective in Avista's *Annual Conservation Plan*. Measures listed in Washington's *Weatherization Manual* priority list are deemed cost-effective for Washington agencies to install and will be 100% funded by Avista regardless of the TRC test result.[4] Measures that do not meet the cost-effectiveness test are listed on the Qualified Rebate List and are offered a partial reimbursement. The reimbursement amount is equal to the avoided cost energy value of the improvement. This approach directs the agency toward installing measures that are most cost-effective, from the utility perspective, but still offer an opportunity to fund other measures if needed. To allow for additional flexibility, the agency may also choose to use its health and safety allocation to fully fund the cost of the measures on the Qualified Rebate List.

PY 2018 Program Details

Eligible efficiency Low Income program improvements are similar to those offered under traditional residential rebate programs and mirror a variety of measures found on the Washington State Weatherization program priority list. Avista's Approved Measure List is provided to the agencies in an attempt to manage the cost-effectiveness of the Low Income program from a utility perspective (as shown in Table 29).

The agencies are allowed the discretion to spend their allotted funds on either electric or natural gas efficiency improvements based on the customer base they serve in a particular year. The program includes improvements to insulation, infiltration, and ENERGY STAR doors and windows along with fuel conversion from electric resistance space and water heating to either ductless heat pumps or natural gas when available.

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[3] In PY 2018, Washington agencies received an additional $350,000 through the 2018 Washington General Rate Case Order No. 07 in Dockets UE-170485 and UG-170486 for electric weatherization measures.

[4] Washington State Legislature. *Conservation cost recovery adjustment.* Section 10. Statutory Authority: RCW 80.01.040, 80.04.160, and 19.285.080. WSR 15-07-043 (Docket UE-131723, General Order R-578), § 480-109-130, filed 3/12/15, effective 4/12/15.

Table 29. PY 2018 Low Income Program "Approved Measure List"

Electric Measures	Natural Gas Measures
• Air infiltration • Air-source heat pump (replacement) • Attic insulation • Duct insulation • Duct sealing • Electric to air-source heat pump • Electric to ductless heat pump (9.0 HSPF) • ENERGY STAR doors • ENERGY STAR windows • Floor insulation • Heat pump water heater (Tier 1; 0–55 gallon) • LED lighting • Wall insulation	• Air infiltration • Attic insulation • Duct insulation • Duct sealing • ENERGY STAR doors • ENERGY STAR windows • Floor insulation • High-efficiency furnace (90% AFUE) • High-efficiency tankless natural gas water heater (0.67 EF for storage; 0.82 EF for tankless)
	Fuel Conversion Measures
	• Electric to natural gas furnace • Electric to natural gas furnace and water heating

Avista also established a Qualified Rebate List of eligible measures. This allows agencies to receive funding for other measures that are not as cost-effective as those on the Approved Measure List but are still necessary for the homes' overall functionality. These measures are listed in Table 30.

Table 30. PY 2018 Low Income Program "Qualified Rebate List"

Electric Measures	Natural Gas Measures
• Electric to natural gas water heater conversion - $586.78	• N/A

Individually, each agency's annual contract allows the agency to spend its allotted funds on either natural gas or electric efficiency measures at its discretion and to charge a 15% administration fee toward the cost of each measure. In addition, up to 15% of the agency's annual funding allocation may be used toward health and safety improvements in support of the energy efficiency measures installed in the home.

It is the agencies' choice to use their funds for health, safety, and other home repairs to ensure the habitability of the home where the energy efficiency improvements were installed. The agencies may also use health and safety funds to fully pay for any of the measures on the Qualified Rebate List. Low Income program participation and savings details for PY 2018 are shown in Table 31 and Table 32.

Low Income Measure Summary

Table 31. 2018 WA Electric Low Income Measures Summary

Measure	Project Count	Incentives	kWh	Therms	kWh Avoided Costs	Non-Energy Benefits	Customer Incremental Cost	Non-Incentive Utility Costs
E ENERGY STAR Refrigerator	1	$654	39	0	$33	$3,850	$569	$14
LED Bulbs	14	$944	13,728	0	$9,418	$0	$821	$4,827
E To Heat Pump Conversion	2	$11,438	9,590	0	$8,238	$0	$9,946	$3,372
E INS - Wall	5	$11,853	9,047	0	$27,039	$0	$10,307	$3,181
E Air Infiltration	54	$47,115	23,274	0	$27,196	$0	$40,970	$8,184
E INS - Attic	33	$85,071	14,147	0	$42,284	$0	$73,975	$4,975
E ENERGY STAR Doors	11	$12,497	4,662	0	$12,021	$43,960	$10,867	$1,639
E Duct Sealing	4	$3,248	5,496	0	$6,422	$0	$2,824	$1,933
E Ductless Heat Pump	8	$39,263	36,972	0	$31,760	$0	$34,142	$13,001
E ENERGY STAR Windows	21	$36,624	2,877	0	$8,598	$0	$31,847	$1,012
E INS - Floor	30	$120,600	49,816	0	$148,892	$0	$104,870	$17,517
E INS - Duct	5	$5,793	11,076	0	$11,574	$0	$5,037	$3,895
E to G Furnace and Water Heater	51	$513,141	259,182	(11,093)	$216,037	$0	$460,363	$91,140
E To G Furnace Conversion	7	$42,991	24,472	(931)	$36,453	$33,000	$37,383	$8,605
E To G H20 Conversion	6	$17,974	9,516	(507)	$8,174	$12,500	$15,629	$3,346
Customer Outreach LEDs	20,225	$0	182,025	0	$124,878	$0	$59,664	$64,008
Total	**20,477**	**$949,205**	**655,918**	**(12,531)**	**$719,018**	**$93,310**	**$899,213**	**$230,649**

Table 32. 2018 WA Natural Gas Low Income Measures Summary

Measure	Project Count	Incentives	kWh	Therms	Therm Avoided Costs	Non-Energy Benefits	Customer Incremental Cost	Non-Incentive Utility Costs
G Air Infiltration	86	$114,940	0	1,376	$11,689	$0	$99,948	$1,333
G Duct Sealing	9	$4,836	0	423	$3,593	$0	$4,205	$410
G ENERGY STAR Doors	53	$63,041	0	844	$11,853	$0	$54,819	$818
G ENERGY STAR Windows	54	$95,430	0	625	$8,658	$0	$82,982	$605
G HE Furnace	45	$218,038	0	3,615	$30,712	$0	$189,598	$3,501
G HE WH 50G	6	$19,285	0	42	$251	$0	$16,770	$41
G INS - Attic	88	$221,706	0	1,931	$29,215	$0	$192,788	$1,870
G INS - Duct	7	$6,578	0	729	$11,025	$0	$5,720	$706
G INS - Floor	48	$152,037	0	3,590	$54,322	$0	$132,206	$3,477
G INS - Wall	36	$81,588	0	2,155	$32,603	$0	$70,946	$2,087
G Tankless Water Heater	1	$3,919	0	69	$582	$0	$3,408	$67
Total	**433**	**$981,398**	**0**	**15,400**	**$194,505**	**$0**	**$853,390**	**$14,915**

Nonresidential Sector

The Nonresidential sector energy efficiency market is delivered through a combination of Prescriptive and Site Specific program paths. Any measure not offered through the Prescriptive program path is automatically eligible for treatment through the Site Specific program path, subject to the criteria for participation in that program. Prescriptive program paths for the nonresidential sector market are preferred for measures that are relatively small and uniform in their energy efficiency characteristics.

Avista's tariff rider funded more than $6.8 million for energy efficiency incentives in nonresidential and small business applications in PY 2018. In PY 2018, Avista gave incentives for 1,375 nonresidential sector Prescriptive and Site Specific projects. Nonresidential sector programs realized over 34,241 MWh and 102,966 therms in annual first-year energy savings.

Nonresidential Program Changes

Program changes made at the beginning of PY 2018 to the nonresidential sector programs could include the addition of new program offerings, discontinuation of programs, and changes to eligibility or incentive levels. Avista communicates program changes once the *Annual Conservation Plan* is finalized and those changes become effective at the beginning of each year. In addition, some program changes are made throughout the year as necessary, but this is less typical.

For nonresidential sector programs, rebates were updated to reflect business planning analysis to include inputs such as new unit energy savings and costs. Changes were effective January 1, 2018, and Avista accepted rebate applications through March 31, 2018, for PY 2017 measures and amounts. This 90-day grace period allowed for a smooth transition as the rebate programs changed so customers had enough time in the pipeline to complete their projects yet close out changes in a balanced way.

The remaining subsections describe each Nonresidential sector program offered in PY 2018 and the verified participation, incentives, and energy savings, among other program achievements.

Nonresidential Prescriptive Path

The Prescriptive program path does not require pre-project contracting, as does the Site Specific program path, and thus lends itself to streamlined administrative and marketing efforts. Incentives are established for the Prescriptive program path by applying the incentive formula contained in Avista's Schedules 90 and 190 (tariff rider) to a prototypical installation. Actual costs and savings are tracked, reported, and available to the third-party impact evaluator. When applicable, the Prescriptive program path measures use unit energy savings from the Regional Technical Forum.

Nonresidential Site Specific Path

The Site Specific path is the most comprehensive offering of the Nonresidential sector. Avista's account executives help nonresidential customers identify energy efficiency opportunities, determine potential energy and cost savings, and identify and estimate incentives for participation. Site Specific incentives are capped at 70% of the incremental project cost for all projects with simple paybacks of less than 15 years. All projects must have a measure life of 10 years or more. Site Specific projects include

appliances, compressed air, HVAC, industrial process, motors (nonprescriptive), shell, and lighting, with the majority being HVAC, lighting, and shell.

Multifamily Natural Gas Market Transformation

The Multifamily Natural Gas Market Transformation is a Site Specific program intended to prompt building owners and developers to consider natural gas as the fuel of choice when constructing multifamily housing. Often these buildings are constructed with little consideration given to tenants' needs to have an energy-efficient home and a manageable energy bill. Tenants in these scenarios are often young families, young adults, or seniors with fixed incomes. Because direct use of natural gas is the most efficient way to heat along with a low number of multifamily complexes that are heated by natural gas in its service area, Avista launched the *Multifamily Natural Gas Market Transformation* program.

New construction single-family homes are normally built with natural gas or, in most cases, there is an opportunity to convert. This is not the case for multifamily housing. By ensuring that sufficient demand exists for this type of living situation, the program is intended to help spur the increase of inventory of natural gas rental units. Lacking this inventory, customers often have no choice but to live in an all-electric heat complex. This program offers incentives of up to $3,500 per unit for the conversion to natural gas by installing standard efficiency space heat and water heaters. This program is sunsetting December 31, 2019, and Avista reduced the incentive to $3,000 per unit in January 2019.

iEnergy DSM Central Software Implementation

Program design and configuration for the iEnergy DSM Central Software for several of Avista's nonresidential programs began in late 2017, which was followed by testing and the eventual launch of the Prescriptive Lighting program in mid-September of 2018 and the Prescriptive Commercial HVAC, VFD, and Insulation program in October of 2018. Concurrently, the Commercial Grocer and Food Service program was being designed, configured, and tested for an early 2019 launch.

Nonresidential Sector Measure Summary

Table 33 through Table 36 provide details on the electric, natural gas, and dual fuel Nonresidential sector programs.

Table 33. 2018 Washington Electric Nonresidential Prescriptive Measures Summary*

Measure	Project Count	Incentives	kWh	Therms	kWh Avoided Costs	Non-Energy Benefits	Customer Incremental Cost	Non-incentive Utility Costs
ESG PSC Case Lighting	4	$4,560	34,624	0	$11,344	$0	$11,029	$1,742
ESG PSC Controls	3	$25,888	188,237	0	$88,520	$0	$39,914	$9,471
PSC Fleet Heat	1	$10,209	188,000	0	$78,814	$0	$10,209	$9,460
PSC Food Service Equipment	14	$4,964	37,340	0	$7,819	$33,584	$91,679	$1,879
PSC Green Motors Rewind	12	$2,900	24,197	0	$9,823	$0	$4,690	$1,217
PSC Insulation	4	$1,813	30,644	0	$0	$0	$129,138	$1,542
PSC Lighting Exterior	552	$1,277,735	7,596,871	0	$4,124,120	$1,957,483	$2,656,449	$382,249
PSC Lighting Interior	471	$1,141,770	10,503,819	0	$5,537,577	$1,100,214	$2,143,595	$528,517
PSC Motor Controls HVAC	8	$57,070	491,062	0	$323,363	$0	$77,233	$24,709
Total	**1,069**	**$2,526,908**	**19,094,795**	**0**	**$10,181,379**	**$3,091,282**	**$5,163,937**	**$960,787**

* Column values may not sum exactly to the totals due to rounding.

Table 34. 2018 Washington Natural Gas Nonresidential Prescriptive Measures Summary

Measure	Project Count	Incentives	kWh	Therms	Therm Avoided Costs	Non-Energy Benefits	Customer Incremental Cost	Non-incentive Utility Costs
PSC Commercial HVAC	33	$36,728	0	21,471	$145,992	$0	$61,094	$111,223
PSC Food Service Equipment	54	$70,486	0	24,912	$18,947	$0	$272,976	$129,052
PSC Insulation	7	54,569	0	36,455	$306,371	$0	$9,794	$188,847
Total	**94**	**$161,783**	**0**	**82,838**	**$471,311**	**$0**	**$343,864**	**$429,122**

Table 35. 2018 Washington Electric Nonresidential Site Specific Measures Summary

Measure	Project Count	Incentives	kWh	Therms	kWh Avoided Costs	Non-Energy Benefits	Customer Incremental Cost	Non-incentive Utility Costs
ESG SS Case Doors	3	$18,291	99,756*	-48**	$61,087	$0	$26,453	$5,019.39
ESG SS Controls	3	$14,352	75,453	0	$47,547	$0	$35,692	$3,797
ESG SS Lighting	3	$96,763	446,063	0	$263,784	$0	$195,122	$22,444
SS Appliances	2	$12,585	67,472	0	$34,878	$0	$65,201	$3,395
SS HVAC Combined	10	$238,472	1,332,342*	-662*	$1,236,061	$0	$578,220	$67,039
SS Industrial Process	6	$73,797	758,239	0	$591,386	$0	$154,673	$38,152
SS Lighting Exterior	76	$580,082	3,415,911	0	$2,398,270	$0	$1,178,731	$171,877
SS Lighting Interior	78	$1,256,160	7,333,957	-2,831	$4,921,439	$0	$2,920,630	$369,020.37
SS Motor Controls Industrial	1	$25,805	129,027	0	$79,836	$0	$43,826	$6,492
SS Motors	1	$15,527	77,633	0	$58,273	$0	$49,662	$3,906
SS Multifamily	10	$1,716,385	1,280,182*	-55,074**	$34,371	$542,000	$1,986,952	$64,414.53
SS Shell	5	$22,798	130,611	0	$172,370	$0	$79,567	$6,571.93
Total	**198**	**$4,071,017**	**15,146,647**	**-58,615**	**$9,899,302**	**$542,000**	**$7,314,729**	**$762,129**

* The electricity savings for these measures include both energy efficiency and fuel conversion savings. The specific details on fuel conversion savings for these measures can be found in Table 30 of *Appendix B to the 2018 Washington Annual Conservation Report: 2018 Washington Electric Impact Evaluation Report*.

* These negative therm savings result from the Fuel Efficiency program. Negative gas savings from fuel conversions are not accounted for in the total portfolio therm savings.

Table 36. 2018 Washington Natural Gas Nonresidential Site Specific Measures Summary

Measure	Project Count	Incentives	kWh	Therms	Therm Avoided Costs	Non-Energy Benefits	Customer Incremental Cost	Non-incentive Utility Costs
ESG SS Case Doors	1	$3,123	0	1,041	$0	$0	$7,829	$5,393
SS HVAC Combined	9	$92,259	0	15,214	$100,343	$0	$109,124	$78,814
SS Shell	3	$4,645	0	1,981	$17,804	$0	$2,400	$10,262
SS Appliances	1	$1,682	0	1,961	$8,624	$0	$3,247	$9,801
Total	**14**	**$101,709**	**0**	**20,197**	**$126,772**	**$0**	**$122,600**	**$104,270**

PY 2018 Nonresidential Trend Analysis

Nonresidential Electric Trends

During 2018, total nonresidential electric savings decreased by 18% from the previous year, from 41,930,098 kWh in 2017 to 34,241,441 kWh in 2018. The largest contributor to the overall savings for 2018 was a result of Avista's Prescriptive Interior Lighting program, which obtained 10,503,819 kWh, or 31% of overall nonresidential savings. This was a significant decrease over 2017 where the Prescriptive Interior Lighting program achieved 27,263,252 kWh savings and represented 65% of all nonresidential savings. This can be attributed to the significant amount of interior lighting savings already captured over the PY 2016–PY 2017 biennium.

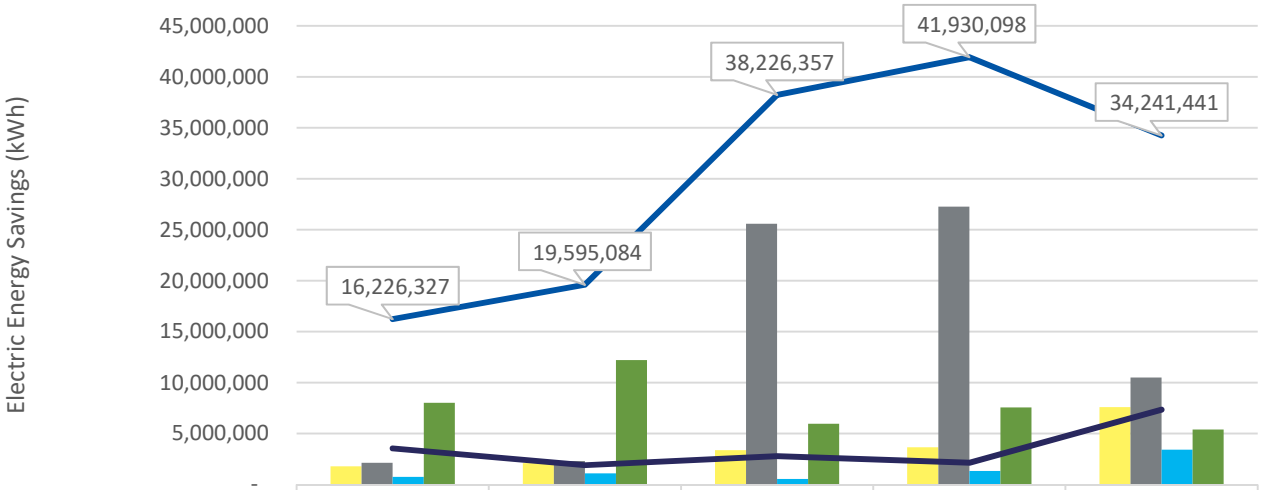
Exterior Prescriptive Lighting and Interior Site Specific Lighting are the next two largest contributors to the overall nonresidential savings. Exterior Prescriptive Lighting contributed 7,596,871 kWh in 2018, a 51% increase the 3,654,432 kWh in 2017. Site Specific Interior Lighting contributed 7,333,957 kWh in 2018, a 244% increase over the 2,129,262 kWh in 2017. Site Specific Exterior Lighting also saw a significant increase in 2018, a 62% increase over 2017.

Other nonresidential measures make up 16% of the overall nonresidential savings. Savings decreased by 29%, from 7,561,240 kWh in 2017 to 5,390,610 kWh in 2018. The individual programs and measures included in "other NR measure" category for 2018 are these:

- EnergySmart Grocer
- Prescriptive Fleet Heat
- Prescriptive Food Service Equipment
- Prescriptive Green Motors Rewind
- Prescriptive Insulation
- Prescriptive Motor Controls HVAC
- Site Specific Appliances
- Site Specific HVAC Combined
- Site Specific Industrial Process
- Site Specific Motor Controls Industrial
- Site Specific Motors
- Site Specific Shell
- Multifamily Market Transformation

Figure 11 shows savings achieved for PY 2014–PY 2018.

Figure 11. 2014-2018 Washington Electric Nonresidential Savings Trends



	2014	2015	2016	2017	2018
PSC Lighting - Exterior	1,790,477	2,106,142	3,372,743	3,654,432	7,596,871
PSC Lighting - Interior	2,130,153	2,306,243	25,590,010	27,263,252	10,503,819
SS Lighting - Exterior	744,480	1,088,545	536,945	1,321,912	3,415,911
Other NR Measures	8,015,872	12,203,710	5,953,873	7,561,240	5,390,883
SS Lighting - Interior	3,545,345	1,890,444	2,772,786	2,129,262	7,333,957
All NR Measures	16,226,327	19,595,084	38,226,357	41,930,098	34,241,441

For the purpose of comparing the PY 2014–PY 2018 trend analysis data, please note that the savings for PY 2014 are unverified gross, PY 2015 and PY 2017 are verified gross, and PY 2016 and PY 2018 are interim verified gross.

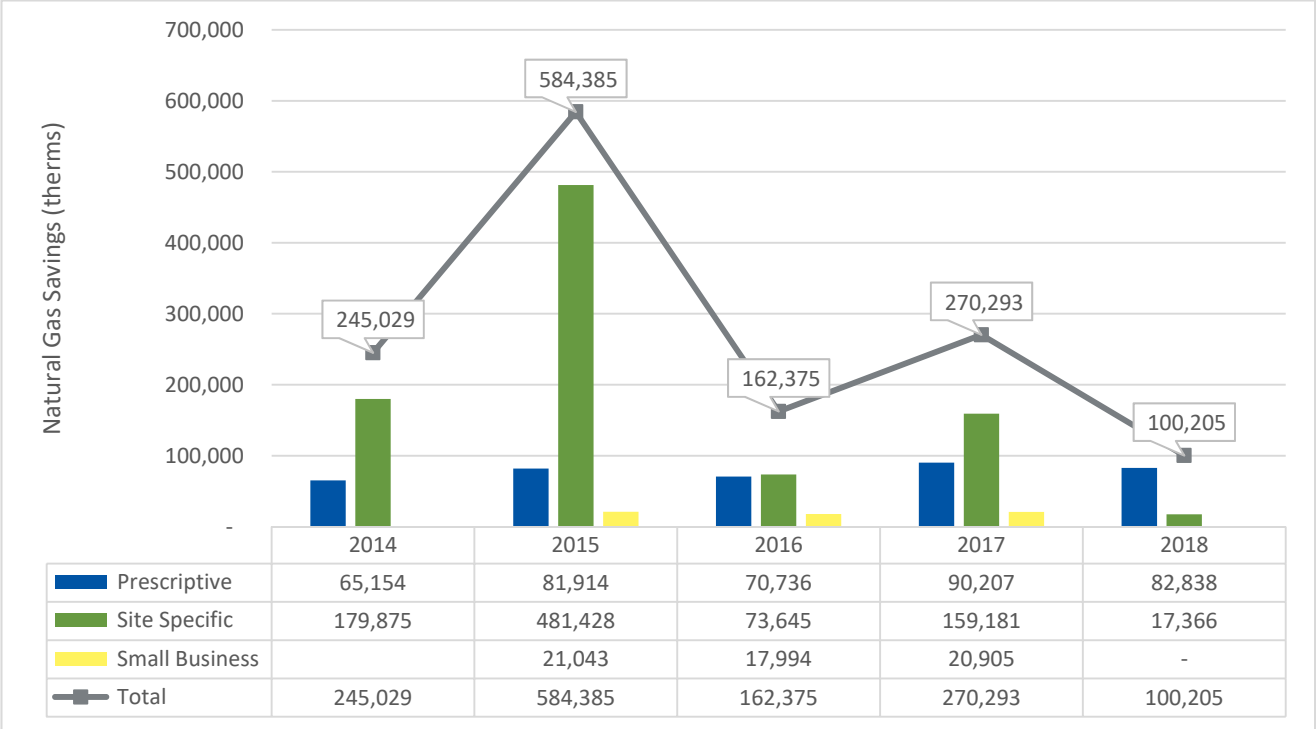
Nonresidential Natural Gas Trends

During 2018, total nonresidential gas savings decreased by 63% from the previous year, from 270,293 therms in 2017 to 102,966 therms in 2018. The largest contributors to the overall savings for 2018 were Avista's Prescriptive programs, which obtained 82,838 therms. The Prescriptive Insulation program provided the largest savings, with 36,455 therms or 36% of overall nonresidential savings. Prescriptive Food Service Equipment achieved savings of 24,912 therms followed by Prescriptive HVAC with 21,471 therms (25% and 21% of total nonresidential savings, respectively).

The Site Specific HVAC Combined program achieved the majority of non-prescriptive savings, with 15,214 therms or 15% of the total Nonresidential savings. Although the number of HVAC projects rose (from five in 2017 to nine in 2018), therm savings dropped, from 96,785 therms in 2017 to 15,214 therms in 2018. Site Specific appliance, EnergySmart Grocer Site Specific case door, and Site Specific Shell measures provided the remaining 5% of nonresidential gas savings.

Figure 12 summarizes the savings achieved for the 2014-2018 annual periods.

Figure 12. 2014-2018 Washington Natural Gas Nonresidential Savings Trends*



	2014	2015	2016	2017	2018
Prescriptive	65,154	81,914	70,736	90,207	82,838
Site Specific	179,875	481,428	73,645	159,181	17,366
Small Business		21,043	17,994	20,905	-
Total	245,029	584,385	162,375	270,293	100,205

For the purpose of comparing the PY 2014–PY 2018 trend analysis data, please note that the savings for PY 2014 are unverified gross, PY 2015 and PY 2017 are verified gross, and PY 2016 and PY 2018 are interim verified gross.

*The savings value of 17,366 therms for Site Specific takes into account the interim reported savings of 20,197 therms from Table 36 plus the negative 2,831 therm savings for SS Lighting Interior in Table 35.

Customer Outreach

Energy efficiency outreach strategies incorporate both broad-reaching and targeted communication as well as attendance at local community events. Energy efficiency is also featured throughout the year in Avista's "Connections" monthly newsletter, which is distributed with the bill and posted online.

Residential Customer Outreach

Avista's residential outreach included the popular "Efficiency Matters" promotion (April through June 2018). During the seven-week contest, TV viewers could watch any KREM newscast for Avista's energy efficiency word of the day and enter it on krem.com for a chance to win a new Camry Hybrid. Television commercials featured energy efficiency tips and Avista rebates. The final event was covered by KREM and included live news coverage. Campaign tactics also included bill inserts, digital advertising, and social media.

In the fall of PY 2018, Avista ran the "Way to Save" broad-reaching advertising campaign to increase awareness of energy efficiency and drive customer engagement. Rebate information was updated from PY 2017 to PY 2018 to reinforce messaging (six television commercials promoted rebates and six television commercials highlighted energy-saving tips). Digital advertising and social media were also

used throughout the campaign to extend its reach. Avista's myavista.com featured supporting promotions. The campaign also included search engine marketing to reach customers who are actively seeking information online.

Avista also took advantage of local sponsorships for "Energy Efficiency Night" at a Spokane Chiefs hockey game. Additionally, a bill insert was produced and distributed to highlight energy efficiency achievements for Washington's Energy Independence Act.

Although available to all customers, Avista conducts targeted outreach for low income, seniors, veterans, and those living with disability. This outreach included several energy fairs, one of which was part of a broader event, the Avista Energy Assistance Day in Spokane County that promoted efficiency and assistance like other energy fairs but partnered with the local Community Action Agency, SNAP, to offer actual energy assistance appointments. Communications tactics used to increase awareness of the energy fairs included direct mail, posters, emails, news releases, and print, radio, and online advertising. In-person outreach efforts also included mobile outreach such as numerous partnerships with local food banks and other venues and workshops at senior centers. For PY 2018, the total energy efficiency expenditures related to residential outreach in Washington was approximately $304,935.

Low Income Customer Outreach

In partnership with its energy efficiency efforts, Avista's Consumer Affairs department conducts conservation education and outreach for low income, senior, and vulnerable customers. Avista makes contact with the target population through workshops, energy fairs, mobile, and general outreach. Each of these methods includes demonstrations and distribution of low-cost and no-cost materials with a focus on energy efficiency, conservation tips and measures, and information regarding energy assistance that may be available through agencies. Low income and senior outreach goals increase awareness of energy assistance programs such as the Avista Low Income Rate Assistance program, the Low Income Home Energy Assistance program, and Project Share.

Avista has recognized several activities as effective for delivering the energy efficiency and conservation education and outreach:

- Energy conservation workshops for groups of Avista customers where the primary target audiences are seniors and low income participants.
- Energy fairs where attendees can receive information about low-cost and no-cost methods to weatherize their home provided through demonstrations and limited samples. In addition, energy fair attendees can learn about billing assistance and demonstrations of the online account and energy management tools. Community partners that provide services to low income populations and support to increase personal self-sufficiency are invited, at no cost, to host a booth to provide information about their services and how to access them.
- Mobile outreach is conducted through the Avista Energy Resource Van, where visitors can learn about effective tips to manage their energy use, bill payment options, and community assistance resources. General outreach is accomplished by providing energy management information and resources at events (such as resource fairs) and through partnerships that

reach Avista's target populations. General outreach also includes bill payment options and assistance resources in senior and low income publications.

In PY 2018, Avista participated in 183 events including workshops, energy fairs, mobile outreach events, and general outreach partnerships and events reaching approximately 16,826 customers in Washington and Idaho. Table 37 shows an overview of different activities by type in Washington.

Table 37. PY 2018 Washington Low Income Outreach Event and Bulb Giveaway Summary

Description	Number of Events/Activities	Contacts	LEDs
Energy Fairs	3	2,879	5,758
General Outreach	35	3,187	5,346
Mobile Outreach	42	4,702	8,278
Workshops	36	986	1,846
Total	**116**	**11,754**	**21,228**

Nonresidential Customer Outreach

To complement its residential outreach, Avista placed two advertorials to increase awareness of its energy efficiency programs for commercial and industrial customers. The first advertorial featured multifamily developers operating in Idaho and Washington who were building apartments with lower heating costs through the direct use of natural gas. The advertorial was placed in 12 publications from June through October 2018, resulting in an estimated 477,450 impressions. The second advertorial, which focused on lighting, featured a small business, a medium-sized company and a large industrial customer. The goal of this communication was to illustrate how Avista can help customers of all sizes become more energy-efficient with lighting improvements. The advertorial ran in 16 publications from July until December 2018, resulting in an estimated 320,050 impressions.

Avista also continued to build awareness of energy efficiency and programs through an electronic newsletter to commercial customers. Also, as opportunities arise, Avista provides winter weather and summer heat energy efficiency tips to local media outlets. Avista updates area vendors about program information through mailings and webinars, who in turn pass that information on to their customers. The general awareness efforts successfully position Avista to actively pursue and react to these earned media opportunities.

Outreach efforts included refreshing commercial program collateral and forms as well as launching additional trade ally tools in Avista's iEnergy DSM central software.

For PY 2018, the total energy efficiency expenditures related to nonresidential outreach in Washington was approximately $190,057.

Evaluation, Measurement, and Verification

Avista retained Cadmus to provide impact and process evaluations for the PY 2018 and PY 2019 electric and natural gas programs. As in past reporting periods, Avista has continued to use a portfolio-wide approach for evaluation to provide a comprehensive benchmark to compare against future years.

Impact Evaluation Summary

For PY 2018, Cadmus conducted impact evaluation activities to determine interim verified savings for most programs. This will provide an estimate of achieved savings until Cadmus can conduct measurement and verification on the full biennial sample at the end of the two-year evaluation cycle. More details on the impact evaluations can be found in *Appendix B. 2018 Washington Electric Impact Evaluation* and Appendix *C. 2018 Washington Natural Gas Impact Evaluation*.

Impact Evaluation Methodology and Activities

Cadmus conducted the Washington electric and natural gas portfolio evaluations using a variety of methods and activities, shown in Table 38.

Table 38. PY 2018 Program Evaluation Activities

Sector	Program Type	Document/ Database Review	Verification/ Metering Site Visit	Billing Analysis	Modeling
Nonresidential	Prescriptive (multiple)	✓	✓	--	--
	Site Specific	✓	✓	✓	--
Residential	Simple Steps, Smart Savings	✓	--	--	--
	HVAC	✓	--	--	--
	Shell	✓	--	--	--
	ENERGY STAR Homes	✓	--	--	--
	Multifamily Direct Install	--	--	--	--
Low Income	Low Income	✓	--	--	--
Fuel Efficiency	Site Specific (Nonresidential)	✓	✓	--	--
	Prescriptive (Residential)	✓	--	--	--
	Low Income	✓	--	--	--

Nonresidential Impact Evaluation Methodology

To evaluate impact evaluation savings for the PY 2018 Nonresidential sector, Cadmus performed several activities in two waves:

- Selected evaluation sample and requested project documentation from Avista
- Performed project documentation review
- Prepared on-site measurement and verification plans
- Performed site visits and on-site data collection (such as trend data, photos, and operating schedules)

- Used site visit findings to calculate interim verified savings by measure
- Applied realization rates to total reported savings population to determine overall interim verified savings

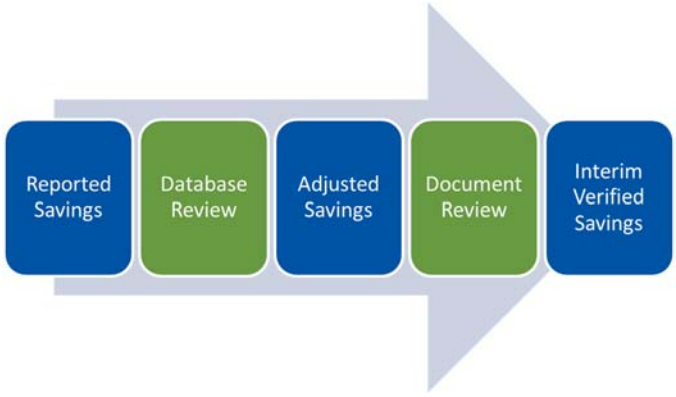
Residential Impact Evaluation Methodology

To determine the residential sector interim verified savings for PY 2018, Cadmus employed two impact evaluation methods for most residential programs:[5]

- Database review
- Document review

Similar to previous practice, Cadmus calculated adjusted savings based on results of the database review and applied realization rates for document reviews. Interim verified savings represented adjusted savings multiplied by the document review realization rates, as shown in Figure 13.

Figure 13. Residential Impact Process



Low Income Impact Evaluation Methodology

Cadmus' impact evaluation for the Low Income programs' measures included a database review. Cadmus used unit energy savings provided in the Avista *Technical Reference Manual* to calculate savings for measures reported in the measure tracking database. Cadmus labeled savings calculated during the database review as *adjusted savings*.

Fuel Efficiency Impact Evaluation Methodology

The impact methodology for Fuel Efficiency measures followed the same processes as described above for the parent program (nonresidential Site Specific path, residential Prescriptive programs, and Low Income programs).

[5] With approval from Avista, Cadmus ceased performing a third impact activity—verification surveys—in Q3 PY 2018 to eliminate redundancy between verification surveys and document review.

Summary of Impact Evaluation Results

Overall, the Washington electric portfolio achieved a 99% realization rate and acquired 46,442,467 kWh in annual interim verified savings (Table 39). The Washington natural gas portfolio achieved a 100% realization rate and acquired 736,986 therms in annual gross savings (Table 40).

Table 39. PY 2018 Reported and Interim Verified Electric Savings

Sector	Reported Savings (kWh)	Interim Verified Savings (kWh)	Realization Rate
Nonresidential	32,839,394	32,834,855	100%
Residential	13,978,866	13,244,864	95%
Low Income	333,482	362,748	109%
Total	**47,151,743**	**46,442,467**	**99%**

Table 40. PY 2018 Reported and Interim Verified Natural Gas Savings

Sector	Reported Savings (therms)	Interim Verified Savings (therms)	Realization Rate
Nonresidential	110,853	100,205	90%
Residential	606,963	621,381	102%
Low Income	16,258	15,400	95%
Total	**734,074**	**736,986**	**100%**

Cadmus collected the Avista reported savings through database extracts from Avista's Customer Care and Billing (residential) and InforCRM (nonresidential) databases and data provided by third-party implementers. Cadmus used the label *interim verified savings* for its findings in the first half of the biennial evaluation. Following the end of the biennium, Cadmus will conduct utility billing regression analyses to evaluate the most accurate energy savings for most residential programs. Cadmus will also determine nonresidential evaluated savings using combined realization rates from both PY 2018 and PY 2019. The results of these final analyses will be labeled *evaluated savings* for the biennial evaluation report.

Process Evaluation Summary

Cadmus conducted process evaluation activities for 2018 focused on four fundamental objectives:

- Assess program delivery channel and marketing methods
- Assess participant and market actor program journey including barriers to participation, satisfaction with the program, and effectiveness of rebate levels
- Assess Avista and implementer staff experiences including organizational structure, communication, and program processes
- Document areas of success, challenge, and changes to the program

The evaluation included all of Avista's nonresidential programs (except Energy Smart Green Grocer) and Avista's residential HVAC, Shell, and Fuel Efficiency programs. Cadmus conducted the evaluation by reviewing documents, interviewing program and implementation staff and contractors, and surveying participants.

Two-thirds of nonresidential survey respondents have previously participated in Avista's past business energy efficiency program. Overall, nonresidential program participants were highly satisfied with the programs (all 19 Site Specific survey respondents, and 42 of 46 Prescriptive survey respondents), although some cited challenges. The top challenge for participating in the Site Specific program was determining whether a project was eligible for a rebate. Prescriptive survey respondents said their top challenges were knowing about the program and its offerings, completing application paperwork, and finding the time needed to apply and complete the project. The application paperwork was of particular concern among lighting project participants.

The residential program delivery went smoothly, per both Avista and implementer staff, and except for small changes to the rebate levels outlined in the 2018 Annual Conservation Plan, the HVAC, Shell, and Fuel Efficiency programs were delivered and performed as expected.

At least 93% of residential survey respondents were *very satisfied* or *somewhat satisfied* with every element of the program in which they participated as well as with Avista overall. Rebates received the lowest satisfaction rating, specifically among survey respondents who participated in the Shell program.

Cadmus also evaluated the MFDI pilot. According to Avista and implementer staff, the pilot, like Avista's residential program, was delivered smoothly and as expected. Participants were generally highly satisfied with the pilot and direct install measures provided to their tenants. Participating property managers did express some confusion with the timing of the rollout of the supplemental lighting phase of the pilot.

The complete process evaluation of nonresidential and residential programs can be found in *Appendix D. 2018 Annual Process Evaluation*.

Generation and Distribution Efficiency

Generation

Avista did not complete any efficiency projects at its generation facilities in PY 2018.

Distribution

During PY 2018, Avista's Grid Modernization program led to a completed upgrade of one Washington feeder with annual savings of 233 MWh and one Idaho feeder with annual savings of 66 MWh.

Avista created the Grid Modernization program, which officially started in 2013, to provide a thorough examination of its electric distribution circuits to programmatically address the upgrading and modernization of the facilities. Avista is focused on selecting and improving the worst performing feeders that have been assessed to provide the most opportunity for improvement in the areas of reliability and energy efficiency. This includes the identification, prioritization, selection, and engineering analysis of the distribution circuits. For the Grid Modernization program, Avista performs a comprehensive inventory of each electric feeder on the system to appropriately prioritize and select the

candidate feeders for the program. Avista then uses the feeder criteria information to rank the potential benefits for each circuit compared with all the distribution feeders on the system.

Avista initially optimized Grid Modernization at a cycle interval of 60 years, meaning that over the course of 60 years the program would rebuild every feeder in the distribution system. Avista selected this interval since it is related to the average life span of the company's distribution infrastructure as well as to the 20-year interval cycle time for the Wood Pole Management (WPM) program.

These two programs are integrated in several important ways. Grid Modernization relies on the inspection data from WPM for its asset condition assessment and targets the timing of feeder rebuilds to optimize the value of wood pole inspections and follow-up already performed. WPM relies on the poles inspected for the Grid Modernization program as contributing to the total number of poles that WPM inspectors must inspect annually to remain on the 20-year inspection cycle. Further, the Grid Modernization program integrates activities of other operational programs beyond WPM, including the transformer change-out program, vegetation management, various budgeted maintenance programs, and the segment reconductor and feeder tie program.

Through the Grid Modernization program, Avista aims to accomplish a comprehensive modernization approach from both an energy efficiency and reliability perspective. The program has several targeted criteria: reliability index analysis, peak loading study, load balancing, high loss conductors, feeder reconfiguration or relocation, primary trunk and lateral conductor analysis, feeder tie location and opportunities, voltage quality study, voltage regulator settings, fuse coordination and sizing analysis, distribution line loss assessment, transformer core losses, power factor analysis, power factor correction, distribution automation deployment, open wire secondary analysis, existing pole analysis, underground facilities, and vegetation management.

With approximately 350 feeders in its system and a targeted 60-year life cycle, Avista should complete almost six Grid Modernization feeders each year when staffed and funded appropriately. So far, it has worked on 19 Grid Modernization feeders (which are in varying forms of design, construction, or completion).

Figure 14 shows the Grid Modernization plan by feeder and identifies the program results and plans that extend through 2023.

Figure 14. Grid Modernization Plan by Feeder

Feeder	State	Construction Start Date	Construction End Date	Baseline Report Date	Baseline Report Version	Estimated Annual Pri. Reconductor MWh Savings	Estimated Annual Transformer Loss MWh Savings	Total Estimated Annual MWh Savings[3,4,5]
9CE 12F4	WA	-	2009	Annual MWh Energy Savings were not estimated or documented at this time[1]				
BEA 12F1	WA	2012	2012	Annual MWh Energy Savings were not estimated or documented at this time[2]				
F&C 12F2	WA	2012	2012	Annual MWh Energy Savings were not estimated or documented at this time[2]				
BEA 12F5	WA	2013	2013	Annual MWh Energy Savings were not estimated or documented at this time[2]				
CDA 121	ID	2012	2013	Annual MWh Energy Savings were not estimated or documented at this time[2]				
WIL 12F2	WA	2013	2015	Annual MWh Energy Savings were not estimated or documented at this time[2]				
OTH 502	WA	2015	2015	Annual MWh Energy Savings were not estimated or documented at this time				
M23 621	ID	2014	2015	3/20/2015	Version 4	412.6	163.2	575.8
RAT 231	ID	2014	2015	3/17/2015	Version 3	0.0	148.7	148.7
WAK 12F2	WA	2015	2016	3/3/2015	Version 7	40.3	135.3	175.6
MIL 12F2	WA	2016	2017	3/10/2015	Version 4	21.0	164.8	185.8
SPI 12F1	WA	2015	2019	4/1/2015	Version 2	31.6	83.2	114.8
RAT 233	ID	2016	2019	3/17/2015	Version 5	90.3	381.4	471.7
SPR 761	WA	2017	2019	9/17/2015	Version 3	49.9	55.7	105.6
ORO 1280	ID	2017	2017	10/19/2015	Version 1	3.5	108.2	111.7
TUR 112	WA	2017	2018	5/6/2016	Version 2	140.1	92.7	232.8
PDL 1201	WA	2017	2017	5/27/2016	Version 2	23.5	165.5	189.0
MIS 431	ID	2018	2023	8/22/2006	Version 1	128.8	128.3	257.1
F&C 12F1	WA	2018	2019	11/16/2016	Version 1	1.8	258.5	260.3
HOL 1205	ID	2018	2018	3/30/2017	Version 1	0	65.5	65.5
BEA 12F2	WA	2019	2020	10/13/2017	Version 1	8.8	260.5	269.3
M15 514	ID	2020	2023	4/30/2018	Version 1	0	245.6	245.6
SIP 12F4	WA	2020	2022	12/14/2018	Version 1	10.5	272.8	283.3
ROS 12F5	WA	TBA	TBA	TBA	Version 1	-	-	-

[1] Completed under the DREE Program. Annual MWh Energy Savings may have been estimated and provided by others, however they did not follow the same analysis process and documentation that was started by Grid Modernization in late 2013, and may not be able to be recreated

[2] Completed under the Feeder Upgrade Program. Annual MWh Energy Savings may have been estimated and provided by others, however they did not follow the same analysis process and documentation that was started by Grid Modernization in late 2013, and may not be able to be recreated

[3] Additional MWh savings estimated through Distribution Automation improvements are not included in these figures

[4] Additional MWh savings estimated through the removal of Open Wire Secondary districts are not included in these figures

[5] Additional MWh savings estimated through power factor correction initiatives with capacitors, IVVC, or CVR are not included in these figures

Also in PY 2018, Avista's LED Streetlight Change-Out program successfully converted 2,742 high-pressure sodium (HPS) streetlights to LED technology, resulting in an energy savings of 139 MWh in Washington and 738 MWh in Idaho.

Avista manages streetlights for many local and state government entities to provide street, sidewalk, and highway illumination by installing overhead streetlights. The primary driver for converting overhead streetlights from HPS to LED is the significant improvement in energy savings, lighting quality, and resource cost savings. In all, over the five-year program, Avista will have changed out over 28,000 streetlights by end of PY 2019. Table 41 shows the distribution efficiency savings by program.

Table 41. PY 2018 Distribution Efficiency Savings by Program

Program	Washington Savings (MWh)	Idaho Savings (MWh)	Total Savings (MWh)
Grid Modernization	233	66	299
LED Streetlight Change-Out	139	738	877
Total	**372**	**804**	**1,176**

Regional Market Transformation

Avista's local energy efficiency portfolio consists of programs and supporting infrastructure designed to enhance and accelerate the saturation of energy efficiency measures through a combination of financial incentives, technical assistance, program outreach, and education. It is not feasible for Avista to independently have a meaningful impact upon regional or national markets.

Consequently, utilities in the Northwest have cooperated through NEEA to address opportunities that are beyond the ability or reach of individual utilities. Avista has been participating in and funding NEEA since NEEA's founding in 1997.

Table 42 shows the PY 2018 NEEA forecast savings versus actual savings and the associated costs for Washington.

Table 42. PY 2018 Forecast versus Actual Savings and Associated Costs for Avista Washington

Fuel Type	NEEA Energy Savings 2018 Forecast	2018 NEEA Final Reported Energy Savings as of March 2019	PY 2018 Costs (Avista Financials)	Avista Current Funding Share (WA and ID Combined)
Electric	4,774 MWh (0.545 aMW)	4,546 MWh (0.519 aMW)	$982,697	5.768% (WA/ID)
Natural Gas	N/A	N/A	$115,995	15.63% (WA/ID)

Table 43 shows the NEEA forecast savings versus actual savings for the 2018 and 2019 biennium.

Table 43. Northwest Energy Efficiency Alliance Forecast versus Actual Savings for the PY 2018 and PY 2019 Biennium

PY 2018-PY 2019 Biennium	NEEA Energy Savings Biennium Forecast	NEEA Energy Savings as of March 2019
Total	9,899 MWh (1.13 aMW)	5,256 MWh (0.60 aMW)

Avista Electric Energy Savings Share

All the values provided in this report represent the electric energy savings allocated to Avista service territory, a combination of site-based energy savings data (where available) or an allocation of savings based on funding share. When the funding share allocation approach is applied, the funding share for Avista is split 70% Avista Washington and 30% Avista Idaho. The share of total current funding is noted in Table 43 above. The funding share for Avista varies by funding cycle and within cycle if the funding composition changes.

Avista Natural Gas Energy Savings Share

The natural gas PY 2015 through PY 2019 business plan does not forecast energy savings in the short term within this cycle. Avista focused the business plan on developing the portfolio of initiatives that will deliver savings in future years (anticipated in PY 2019 or later).

PY 2018 Costs

NEEA's annual costs do not map directly to Avista's annual energy savings for a given year. Because of NEEA's efforts to transform the market, the energy savings investments are heavy up front and the return (in the form of energy savings) lags by a few years or more. Approximately 68% of the regional energy savings delivered in PY 2018 was from initiatives for which the investment period was PY 2010 through PY 2014. The current investment period has a forecasted energy stream that extends beyond PY 2019.

NEEA's costs include all costs for operations and value delivery:

- Energy savings initiatives
- Investments in market training and infrastructure
- Stock assessments, evaluations, data collection, and other regional and program research
- Emerging technology research and development
- All administrative costs

Avista's criteria for funding NEEA's electric market transformation portfolio calls for the portfolio to deliver incrementally cost-effective resources beyond what could be acquired through Avista's local portfolio alone. Avista has historically communicated to NEEA the importance of NEEA delivering cost-effective resources to Avista's service territory. Avista believes that NEEA will continue to offer cost-effective electric market transformation in the foreseeable future. Avista will continue to be active in the organizational oversight of NEEA, which will be critical to ensuring that geographic equity, cost-effectiveness, and resource acquisition continue to be primary areas of focus.

Energy Efficiency Expenditures

During PY 2018, Avista incurred over $21.2 million in costs for operating electric and natural gas energy efficiency programs in Washington, with $17.4 million for electric energy efficiency and $3.7 million for natural gas energy efficiency. Of this amount, $1.1 million was contributed to NEEA to fund regional market transformation ventures.

Sixty-five percent of expenditures were returned to ratepayers in the form of incentives or direct benefit to customer through direct install programs. During the PY 2018 calendar year, approximately $803,000, or 4%, was spent on evaluation in an effort to continually improve program design, delivery, and cost-effectiveness.

Evaluation, as well as other implementation expenditures, can be directly charged to the appropriate state(s) or segment(s). In cases where the work benefits multiple states or segments, these expenditures are charged to a general category and allocated based on avoided costs for cost-effectiveness purposes.

The expenditures listed in the next two tables represent actual payments incurred in PY 2018 and often differ from the cost-effectiveness section, where all benefits and costs associated with projects

completing in PY 2018 are evaluated in order to provide matching of benefits and expenditures resulting in a more accurate assessment of cost-effectiveness.

Table 44 and Table 45 provide a summary of energy efficiency expenditures by electric and natural gas fuel type, respectively.

Table 44. Avista Electric Energy Efficiency Expenditures (Washington)

Segment	Incentives / Dbtc	Implementation	Pilots	EM&V / CPA	NEEA	Total
Residential	$3,259,224	$1,002,089	$1,128,145	$0	$0	**$5,389,458**
Low Income	$1,125,807	$208,835	$0	$0	$0	**$1,334,642**
Nonresidential	$6,564,661	$584,120	$0	$0	$0	**$7,148,781**
Regional	$0	$0	$0	$0	$982,697	**$982,697**
General	$0	$1,932,676	$0	$631,122	$0	**$2,563,798**
Total	**$10,949,693**	**$3,727,720**	**$1,128,145**	**$631,122**	**$982,697**	**$17,419,377**

Dbtc = Direct benefit to customer

Table 45. Avista Natural Gas Energy Efficiency Expenditures (Washington)

Segment	Incentives / Dbtc	Implementation	Pilots	EM&V / CPA	NEEA	Total
Residential	$1,476,615	$73,159	$82,693	$0	$0	**$1,632,466**
Low Income	$1,152,642	$11,036	$0	$0	$0	**$1,163,678**
Nonresidential	$291,374	$218,921	$0	$0	$0	**$510,295**
Regional	$0	$0	$0	$0	$115,995	**$115,995**
General	$0	$171,573	$0	$172,177	$0	**$343,750**
Total	**$2,920,630**	**$474,689**	**$82,693**	**$172,177**	**$115,995**	**$3,766,184**

Dbtc = Direct benefit to customer

Tariff Rider Balances

As of the start of PY 2018, the Washington electric and natural gas (aggregate) tariff rider balances were underfunded by $15,045,591. During PY 2018, Avista collected $23.7 million in tariff rider revenue to fund energy efficiency while expending $21.2 million to operate energy efficiency programs.

During PY 2018, Avista revised its electric DSM tariff rate to address the underfunded balance in the electric energy efficiency programs. This rate revision resulted in higher collections through Tariff Schedule 91 and collections exceeded expenditures by $2.5 million, leading to a year-end underfunded balance of $11.9 million. Avista will continue to monitor its tariff rider balances to determine if further modifications are necessary.

Table 46 illustrates the PY 2018 tariff rider activity by fuel type.

Table 46. Tariff Rider Activity (PY 2018)

	Electric	Natural Gas
Beginning Balance (Underfunded)	($14,418,938)	($626,653)
Energy Efficiency Funding	$19,943,490	$3,747,835
Net Funding of Operations	**$5,524,552**	**$3,121,182**
Energy Efficiency Expenditures	($17,419,377)	($3,766,184)
Ending Balances (Underfunded)	**($11,894,825)**	**($645,002)**

WAC 480-109-130 provides that "Utilities must file with the Commission for recovery of all expected conservation cost changes and amortization of deferred balances…no later than June 1st of each year with a requested effective date at least sixty days after the filing. If the utility believes that a filing is unnecessary, then it must file a request for exception and supporting documents no later than May 1st of each year demonstrating why a rate change is not necessary."[6] Avista anticipates filing a rate revision for its electric tariff rider (Schedule 91) and a request for exception for its natural gas tariff rider (Schedule 191) in 2019.

Actual Expenditures to Annual Conservation Plan Budget Comparison

For PY 2018 operations, Avista exceeded its estimated electric energy efficiency expenditures by $1.1 million, or 7%, and its natural gas expenditures were estimated by more than $489,000, or 15%. The biggest driver of the expenditure variance is related to the level of incentives from participation in energy efficiency programs and also to the adoption of the MFDI pilot as a full program. The MFDI program is discussed in more detail in the *Multifamily Direct Install Program and Supplemental Lighting* section.

Although the *Annual Conservation Plan* provides an expectation for operational planning, Avista is required to offer incentives for all energy efficiency measures that qualify under Schedules 90 and 190. Since customer incentives are the largest component of expenditures, customer demand can easily impact the funding level of the tariff riders.

Table 47 provides detail on the budget to actual comparison of energy efficiency expenditures by fuel type.

[6] Washington State Legislature. *Conservation cost recovery adjustment.* Statutory Authority: RCW 80.01.040, 80.04.160, and 19.285.080. WSR 15-07-043 (Docket UE-131723, General Order R-578), § 480-109-130, filed 3/12/15, effective 4/12/15.

Table 47. Annual Conservation Plan Budget to Actual Expenditures Comparison

	Electric	Natural Gas
PY 2018 *Annual Conservation Plan*		
Incentives Budget[a]	$10,266,317	$2,109,335
Non-Incentives and Labor[b]	$6,007,047	$1,168,321
Total Budgeted Expenditures	**$16,273,365**	**$3,277,655**
Actual PY 2018 Expenditures		
Incentives and Direct Benefit to Customer	$12,077,838	$3,003,323
Non-Incentives and Labor[b]	$5,341,539	$762,861
Total Actual Expenditures	**$17,419,377**	**$3,766,184**
Variance	**$1,146,012**	**$488,529**

Note: Budget values are from the PY 2018 *Annual Conservation Plan*.

[a] This row includes $350,000 budgeted for pilot programs.

[b] Non-Incentive and Labor includes all "other" implementation costs of the energy efficiency program.

The expenditure variance is mainly attributed to the Site Specific program path, which, during PY 2018, had an initial estimated incentive expenditure of $1,450,000 and an actual expenditure of $3,621,687. Avista's Exterior Lighting program also contributed to the variance with its actual expenditures of $2,049,722, exceeding the planned expenditures of $439,855 by $1,609,867. Table 48 illustrates the top five measures with the highest impact on the expenditure variance.

Table 48. Programs with Highest Impact on Expenditure Variance

Program	Planned[a]	Actual	Variance	Variance Percentage
Site Specific	$1,450,000	$3,621,687	$2,171,687	150%
Nonresidential Exterior Lighting	$439,855	$2,049,722	$1,609,867	366%
Nonresidential Interior Lighting	$1,167,149	$1,959,941	$792,791	68%
Multifamily Direct Install	$350,000[b]	$1,033,425	$683,425	195%
Residential Fuel Conversions	$2,471,450	$2,000,500	($470,950)	-19%

[a] Planned values are estimated incentive costs from the PY 2018 *Annual Conservation Plan* with the exception of the MFDI program, which includes the direct benefit to participants.

[b] The $350,000 planned budget is inclusive of all pilot programs, not solely MFDI.

The MFDI program began as a pilot program in early PY 2018; however, because of its ability to produce cost-effective savings and benefit the hard-to-reach and lower income customer segments, the pilot (with approval from the Advisory Group) was chosen to be implemented as a full program offering in late PY 2018. Avista initially set an estimated budget of $350,000 for all pilot programs, but as the MFDI pilot began to demonstrate cost-effective savings and exceed the originally planned budget, Avista remained in communication with its Advisory Group on the pilot savings achieved and the accumulated expenses derived from those savings achievements.

Conclusion and Contact Information

This 2018 Annual Conservation Report represents program efforts by Avista to achieve its expected eligible acquisition savings for the 2018-2019 biennium. For additional supporting information, please see the corresponding appendices:

- Appendix A: Response to 2016-2017 Recommendations
- Appendix B: 2018 Washington Electric Impact Evaluation
- Appendix C: 2018 Washington Natural Gas Impact Evaluation
- Appendix D: 2018 Interim Process Evaluation
- Appendix E: Response to 2018 Recommendations
- Appendix F: Department of Commerce Conservation Report

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Appendix A. Response to 2016-2017 Recommendations

This appendix covers Avista's responses to recommendations from the 2016-2017 Impact Evaluation.

Appendix B. 2018 Washington Electric Impact Evaluation

This appendix provides the full Cadmus impact evaluation report for Avista's PY 2018 electric programs in Washington.

Appendix C. 2018 Washington Natural Gas Impact Evaluation

This appendix provides the full Cadmus impact evaluation report for Avista's PY 2018 natural gas programs in Washington.

Appendix D. 2018 Annual Process Evaluation

This appendix provides the annual Cadmus process evaluation report for Avista's PY 2018 programs.

Appendix E. Response to 2018 Recommendations

This appendix covers Avista's responses to recommendations from the 2018 Impact Evaluations.

Appendix F. Department of Commerce Conservation Report

This appendix includes the Energy Independence Act (I-937) Conservation Report that is submitted to the Department of Commerce.