Appendix E:

2016-2017 Process Evaluation Report

REPORT

Process Evaluation of Avista's 2016-2017 Energy Efficiency Programs

Submitted to Avista Utilities
May 30, 2018

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1 Executive Summary

Nexant Inc. and Research Into Action (collectively the evaluation team) conducted a process evaluation of Avista's 2016-2017 residential and nonresidential energy efficiency programs. The main purpose of the process evaluation was to identify any improvements needed at the portfolio level to increase program effectiveness and efficiency. The evaluation team conducted the evaluation by reviewing program data and through interviews and surveys with multiple market actors. Table 1-1 lists the data collection activities and key topics covered by each data source.

Table 1-1: Data Collection Activities

Data Source (Sample by sector)	Type	When	Key Topics
Wave 1: Staff	Interview	Dec. 2016, Jan.-Feb. 2017	▪ Program goals ▪ Program processes ▪ Regulatory context ▪ Communication and coordination ▪ Data tracking ▪ Future program opportunities ▪ Outreach ▪ If anything changed (Wave 2 Interviews)
Wave 2: Staff	Interview	Oct. 2017	
Implementers	Interview	April 2017	
Contractors	Survey	July-Aug. 2017	▪ Program familiarity ▪ Satisfaction ▪ Motivations to participate ▪ EE Sales practices ▪ Net-to-Gross ▪ T-12 replacement messaging ▪ Suggestions for improvement
Highly engaged contractors	Interview	Oct.-Nov. 2017	▪ Sales focus ▪ How they generate business and leads for the program ▪ Why are they engaged
Participants (	Survey	Dec. 2016 – Feb. 2018	▪ Program awareness ▪ Satisfaction ▪ Program experience ▪ Barriers to participation ▪ Freeridership & spillover ▪ Demographics
Nonparticipants	Survey	Dec. 2017, Feb. 2018	▪ Awareness of and interest in Avista's offerings ▪ Upgrades and motivation to upgrade ▪ Barriers to program participation ▪ Spillover ▪ Reactions to T-12 incentive messaging

In summary, the 2016-2017 evaluation activities showed high levels of satisfaction among program participants and contractors. Program participants and contractors were complementary of Avista staff and generally appreciated the opportunities to save money, save energy, and improve their properties through the energy efficient opportunities that Avista's programs provide. The evaluation also showed that there are areas the programs could enhance to respond to the ever-changing market conditions in which these programs operate.

The results of the process evaluation identified the main key findings noted in the following sub-sections, organized by those that cross sectors, by sector specific findings, and by theme. Conclusions and recommendations follow the key findings. A complete list of key findings can be found in Section 8.

1.1 Cross-Cutting

Staff indicated that the existing leadership structure of the DSM group is working well. Specifically, having a leader responsible for program implementation and meeting regulatory requirements, responsibilities that were split previously, has been helpful.

Avista staff adapted programs to reflect what they learn from the market. Avista DSM staff analyze participation data, interview participants, conduct quality assurance checks, develop new programs to reach underserved groups, and have developed closer relationships with contractors. To cross-train staff in various areas of energy efficiency, program managers periodically rotate across programs. Having staff cross-trained in programs allows them to more easily assist one another during times of heavy program activity or when a fellow manager is on leave. Staff also reported engaging in local and regional professional activities that help them learn what other jurisdictions are doing and how they can apply those lessons learned to Avista programs.

Avista staff have worked to improve their administrative capabilities. Avista's recent purchase of the iEnergy data management platform will allow them increased knowledge about their program participants and contractors. This increased knowledge can be used for things like developing closer connections with contractors – for example rewarding highly active contractors and encouraging less active contractors to do more.

Staff strive to be fully transparent with their Advisory Group and other external parties. They provide draft documents to the Advisory Group and attend Advisory Group meetings to discuss pilots, programs, plans, and concerns. Regular interactions with the Advisory Group help staff understand commissions' expectations and allows Avista staff to communicate the issues they face in administering DSM programs.

1.2 Nonresidential Key Findings

1.2.1 Program Administration

Nonresidential program staff noted several successes they experienced in 2016-17. For Prescriptive and Site Specific participants, staff cited high levels of participant satisfaction, appreciation for the T12 and T8 conversion projects, and enthusiasm for the new data tracking system that will enable them to better engage with contractors. Staff noted that the Energy Smart Grocer implementer has been able to re-energize interest in the program by reaching out to new customers, especially restaurants and some retailers. Staff also reported success with the Small Business program including high levels of satisfaction among participants, more savings than forecasted, and anecdotal evidence that Small Business participants were participating in other Avista programs.

Nonresidential program staff cited several challenges they experienced in 2016-17. Prescriptive and Site Specific challenges included booking non-lighting projects with customers (especially natural gas projects), getting some customers to follow program procedures so that Avista can book the savings, and working with customers that do not have a contractor in mind for their project.

1.2.2 Program Awareness and Involvement

Contractors have typically been aware of and used Avista programs for a long time. Almost three-quarters of contractors have been using Avista programs for greater than five years. Lighting contractors, the dominant contractor type surveyed, reported greater use of Avista programs than their HVAC counterparts.

Using Avista representatives to contact small businesses was an effective mechanism to inform the small business sector about Avista offerings. Four-fifths of Small Business participants reported they learned about Avista offerings from their interaction with an Avista representative.

1.2.3 Influences on Customer Decision Making

Commercial contractors largely agree that Avista incentives help them get work and nudge customers to install more efficient equipment than they may have otherwise. Three-quarters or more of contractors agreed that they always tell customers about Avista incentives, that incentives help them sell jobs, and that incentives push customers to install more efficient equipment.

Almost all high performers encourage their customers to consider upgrades other than what they may have initially contemplated. Electrical contractors reported preparing formal upgrade plans for customers that provide a list of projects with a cost and savings estimate for each project. Another contractor noted that they look for old and aging equipment in a facility and recommend to customers to replace that equipment and another contractor will suggest to customers with multiple sites that there may be savings opportunities at those other sites.

1.2.4 Program Experience

Participants were largely highly satisfied with their program experience. Avista staff received high praise from participants, especially among audit participants that largely characterized the auditors as professional and able to communicate the audit results clearly. Rebate participants reported the program provided a reasonable variety of equipment and the time to receive their rebate was reasonable. Site Specific participants largely agreed the time to receive their upgrade recommendations was reasonable and those that received a site inspection reported the inspection was minimally disruptive.

Most audit recipients reported they had or would implement at least some of the recommended upgrades from their audit. About three-quarters of audit recipients indicated they had or would implement the energy efficient recommendations and about four-fifths indicated they would install energy efficient lighting measures. Few indicated they would make HVAC, shell, or other upgrades.

1.2.5 Opportunities for Increasing Program Participation

Nonparticipants recently made and are planning to make building upgrades. This indicates both a lost opportunity and future opportunities for the program. More than one-third of nonparticipants reported they plan to make a building upgrade in the next two years and almost half of nonparticipants reported making building upgrades in the last two years. Almost two-thirds of those respondents planning to make an upgrade reported planning a lighting upgrade and fifteen percent plan to make HVAC upgrades. Of those who made upgrades in the last two years, almost half made lighting upgrades and almost a quarter made HVAC upgrades.

Nonparticipants have little awareness about their HVAC equipment and the possible savings, increased comfort, and other benefits that could result from HVAC upgrades, particularly from installing VFDs. Less than one-fifth of nonparticipants considered replacing their HVAC equipment and even fewer ever talked to a contractor or Avista representative about opportunities and more than two-thirds indicated they would install VFDs in their HVAC system, even after hearing about the potential benefits during the survey.

1.3 Residential Key Findings

1.3.1 Program Delivery

Contractors largely agree that the Avista programs benefit their business. According to almost all surveyed contractors they always tell customers about Avista incentives which in turns pushed customers to install energy efficient equipment and ultimately helped them sell jobs.

Avista projects constituted a considerable portion of all contractor respondent's work. HVAC contractors reported, on average, that three-fifths of their work received Avista incentives and shell contractors reported, on average, that more than half of their work received Avista incentives.

High performing residential contractors often get large portions of their program participant customers from past customers – people they did maintenance, service, or other work for in the past. On average, more than a third (36%) of projects came from customers they worked for in the past and more than two-fifths (42%) of projects came from referrals from other customers or from other contractors – that is other contractors or customers referred potential customers to their company. Relying on past customers was particularly important to HVAC contractors.

1.3.2 Customer Experience with Rebate Programs

Nonparticipant's awareness of Avista programs is largely due to some advertisement from Avista or via word-of-mouth from friends and family. Participants were largely aware due to interactions with a contractor. More than half of nonparticipants were aware of the program from advertisements and more than a quarter were aware via word of mouth. About half of participants reported program awareness because of a contractor.

Almost half of participants are considering participating again. More than one-half (58%) of 2016 and 2017 surveyed participants reported being familiar with other energy efficiency rebates aside from the one they received. A little less than half (46%) of those familiar with other Avista rebates noted they are "very likely" to apply for another rebate in the next two years.

1.4 Conclusions and Recommendations

Based on evaluation findings, the evaluation team concludes the following and provides several suggestions on how to improve the program. These conclusions and recommendations are divided into three categories the team examined: Cross-cutting; Nonresidential, and Residential.

1.4.1 Cross-cutting

Cross-cutting Conclusion 1: Program delivery appears to be working well in both sectors. Processes work well for all residential and nonresidential programs we evaluated. Participants and contractors were typically highly satisfied with the program. The evaluation team found only the limitation that project tracking did not include contractor information, making it difficult to assess contractor engagement. Avista is remedying this situation with a new program data management platform.

Cross-cutting Conclusion 2: Contractors continue to be a driving force of the program and additional support could increase their effectiveness. Nonresidential lighting projects and savings are unlikely to continue at the same level due to lower incentives, rapid adoption of newer lighting technologies (i.e., LEDs), and the removal of the Fuel Efficiency program. Furthermore, nonresidential programs struggle to attract non-lighting projects, especially natural gas projects.

Meanwhile, contractors promote programs, have relationships with customers (especially in the HVAC market), prepare applications, and recommend energy efficiency measures.

***Cross-Cutting Recommendation 1*:** Develop a comprehensive strategy to engage contractors. Consider the following tactics that might be included in an integrated strategy.

- Target contractors with measure and sector specific messaging. Consider messages about the quantity of businesses still using T12 lighting, advantages businesses recognize for TLEDs, and proportion of businesses indicating they will replace lighting in the next two years.
- Include a find-a-contractor tool on the program website to address business concerns about finding reliable contractors and help staff that currently field questions from customers seeking contractors.
- Maintain relationships with HVAC contractors that may be deterred by the removal of the Fuel Efficiency program to remind them of other Avista offerings relevant to their business.
- Provide training to contractors that may help them sell more Avista incented projects. This could include sales trainings and training about new technologies.
- Provide regular updates to contractors via an email newsletter. This newsletter could inform them of program changes, pilot program opportunities, and new technologies.
- Offer cooperative (co-op) marketing. Co-op marketing can help contractors market the program in a manner consistent with Avista objectives and help support customer perceptions of contractor credibility. High performing contractors reported using advertisements to drive sales and advertisements drove program awareness among nonparticipants more than any other outreach.
- Conduct market insights research to identify non-lighting contractors who are not engaged with the program. Such research might identify firms with notable market reach in terms of geography or number of customers, as well as firms with sub-market specializations.

Cross-cutting Conclusion 3: The evaluation team found some inconsistencies with the values reported in Avista's 2016 and 2017 databases compared to values noted in their Technical Reference Manual (TRM). As part of the evaluation activities, the evaluation team reviewed Avista's program participation tracking databases for accuracy and consistency. The participation databases were requested and received on a quarterly basis. The evaluation team reviewed the database for alignment with reported deemed savings values against Avista's most current Technical Reference Manual (TRM).

***Cross-Cutting Recommendation 2*:** The evaluation team recommends that Avista report deemed savings in alignment with what is reported in their TRM. In addition, to ensure more accurate reporting throughout Avista's DSM portfolio, it is recommended that the TRM be updated on an annual basis, and that all updates are shared across Avista's DSM program managers.

1.4.2 Nonresidential

Nonresidential Conclusion 1: **Customer awareness of Avista's non-lighting offerings is low and identifying non-lighting projects, especially for natural gas, remains challenging**.

About half of nonresidential nonparticipants are not aware of Avista programs despite the fact that more than two-fifths of these respondents reported having energy efficiency policies in place. Customers with awareness typically are aware only of Avista's lighting programs, consistent with lighting's proportion of portfolio savings. Many customers reported they have never considered upgrading their HVAC systems and even fewer customers are aware of the *benefits* of non-lighting efficient technologies, such as VFDs. More than two-fifths of nonparticipants indicated plans to upgrade their properties in the next two years, suggesting an opportunity for Avista to influence them to make energy efficient decisions.

> ***Nonresidential Recommendation 1:*** Focus on marketing the energy efficiency benefits of non-lighting technologies to both contractors and customers.

Nonresidential Conclusion 2: There are still opportunities to garner lighting savings. Roughly half of all customers indicated they will pursue replacing their fluorescent tube lighting in the next two years and customers largely agree that LEDs are superior to T12 lighting, suggesting an opportunity for Avista. However, the evaluation team found in the last biennium a similar proportion of customers with old lighting systems. Furthermore, few customers report being contacted by a program representative or a contractor about the benefits of LEDs. These findings suggest that Avista will need to be proactive to influence the market.

> ***Nonresidential Recommendation 2*:** Avista should leverage its incentives by increasing its outreach to customers and contractors, assisting customers to find reliable contractors, and developing one or more case studies that illustrate the nonenergy benefits of TLEDs.

1.4.3 Residential

Residential Conclusion 1: There is a need to increase participation in residential rebate programs in the next biennium cycle. Per staff interviews and recent Washington regulatory filing,[1] Washington's Fuel Efficiency program will likely no longer be offered in the next biennium. The Fuel Efficiency program has the highest participation among the rebate programs the evaluation team evaluated for the process evaluation activities. In addition, the majority of high performing HVAC contractors the team interviewed are combining offers of incentives for both Fuel Efficiency and promoting LEAP (a program outside of the conservation portfolio) to stimulate participation in the Fuel Efficiency program. If Fuel Efficiency incentives are no longer offered, then high performing HVAC contractors who currently promote both Fuel Efficiency and other HVAC incentives might become less engaged with Avista.

[1] Commission Staff Comments Regarding Utility Conservation Plans Under The Energy Independence Act, RCW 19.285 and WAC 480-109 (2018-19 Biennial Conservation Plans), December 1, 2017; In the Matter of Avista Corporation 2018-19 Biennial Conservation Plan. https://nationalefficiencyscreening.org/wp-content/uploads/2017/12/WA-UTC-171087-91-92-Staff-Comments-12-1-17.pdf (Accessed on March 29, 2018).

***Residential Recommendation 1*:** Consider the following:

- Provide contractors with customer collateral promoting Avista's HVAC, shell, and water heating incentives, serving to nudge both customers and contractors to consider the breadth of Avista's offerings.
- Confer with high performing HVAC contractors during program and incentive planning to gather their insights concerning increasing participation.

2 Introduction

2.1 Purpose of Evaluation

The purpose of the 2016-2017 DSM portfolio process evaluation was to identify any improvements needed at the portfolio level to increase program effectiveness, efficiency, and identify opportunities for future programs. The evaluation focused on all nonresidential programs and three residential incentive programs: Fuel Efficiency, Heating, Ventilation, and Air-conditioning (HVAC), and Shell. The evaluation team collected interview and survey data from program staff, implementation contractors, program participants, nonparticipants, and contractors. Additionally, the team examined program collateral and documentation.

Table 2-1 summarizes the primary objectives and specific areas for investigation along with the information sources the evaluation team used to investigate them.

Table 2-1: Process Evaluation Objectives and Information Sources

Objectives - To Assess:	Information Sources				
	Program Documents	Interviews	Surveys		
	Procedures; design docs; application forms; participant data; marketing docs; etc.	Staff, 3rd Party Implementers, & Trade Allies	Participating Customers	Participating Trade Allies	Non-participating Customers
Appropriateness of design, participation procedures, internal communication, rebate processing (e.g., ease of use, cycle time)	✓	✓	✓	✓	✓
Accuracy, consistency, completeness of program records	✓	✓			
Participant program satisfaction		s*	✓	✓	
Barriers to participation	✓	s*	✓	✓	✓
Effectiveness of incentives in motivating action			✓	✓	✓
Effectiveness of organizational structure, communication, and program processes	✓	✓			
Status of marketing research activities	✓	✓			

Objectives - To Assess:	Information Sources				
	Program Documents	Interviews	Surveys		
	Procedures; design docs; application forms; participant data; marketing docs; etc.	Staff, 3rd Party Implementers, & Trade Allies	Participating Customers	Participating Trade Allies	Non-participating Customers
Effectiveness of marketing and promotional efforts	✓	✓	✓	✓	✓
Opportunities for process improvement and potential programs		✓	✓	✓	s*
Status of Avista response to prior evaluation recommendations		✓			
Obtain data for net-to-gross analysis			✓	✓	✓

* Indicates the source will provide secondary or supporting information.

To help the reader understand where to look in the report for information pertaining to each objective, the evaluation team prepared Table 2-2 that lists specific report sections pertinent to each objective.

Table 2-2: Review of Where Each Evaluation Objective is Addressed

Objective – to assess:	Where addressed? (Section Number, Section Title)
Appropriateness of design, participation procedures, internal communication, rebate processing activities (e.g., ease of use, cycle time)	• 4.1 Organization of the DSM Group; • 4.2 DSM Group Effectiveness and Efficiency • 5.1 Program Administration (Nonresidential) • 6.1 Program Delivery (Residential)
Accuracy, consistency, completeness of program records	• 4.1 Organization of the DSM Group; • 4.2 DSM Group Effectiveness and Efficiency
Participant satisfaction with programs	• 5.4.2 Participant Program Satisfaction (Nonresidential) • 6.2.3 Program Experience (Residential)
Barriers to participation	• 6.2.2 Motivation and Barriers to Participation (Residential) • 5.4.2 Participant Program Satisfaction (Nonresidential) • 7.1.2 Overcoming barriers that prevent customers from upgrading T12s (Nonresidential) • 5.2.2 Customer Awareness (Nonresidential) • 5.5.2 Nonparticipant's recent and planned upgrades (Nonresidential)

Objective – to assess:	Where addressed? (Section Number, Section Title)
Effectiveness of incentives in motivating action	• 5.3.2 Customer Motives (Nonresidential) • 5.3.3 Contractors' Sales Practices (Nonresidential) • 5.3.3.1.3 Techniques used to generate program participation (Nonresidential) • 5.3.1 Energy Practices and Policies (Nonresidential) • 7.1.2 Overcoming barriers that prevent customers from upgrading T12s (Nonresidential) • 7.1.3 Approaches and messaging likely to be effective at encouraging customers to upgrade lighting (Nonresidential)
Effectiveness of organizational structure, communication, and program processes	• 4.1 Organization of the DSM Group; • 4.2 DSM Group Effectiveness and Efficiency • 5.1 Program Administration (Nonresidential) • 5.4 Participant Involvement (Nonresidential) • 6.1 Program Administration (Residential)
Status of marketing research activities	• 4.1.2 DSM Group Responsibilities
Effectiveness of marketing and promotional efforts	• 5.4.3 Contractor Program Satisfaction (Nonresidential) • 5.5.2 Nonparticipant's Recent and Planned Upgrades (Nonresidential) • 6.2.1 Awareness and Familiarity with Avista Programs (Residential) • 6.2.2 Motivation and Barriers to Participation (Residential)
Opportunities for process improvement and potential programs	• 5.4.4 Participant Concerns (Nonresidential) • 5.5 Opportunities for Increasing Program Participation (Nonresidential)
Status of Avista response to previous evaluation recommendations	• 4.2.3 Administrative Efficiency • 4.2.4 Transparency • 5.1.1 Successes (Nonresidential) • See 2016 Annual Report
Obtain data for net-to-gross analysis	• 5.6 Freeridership and Spillover (Nonresidential) • 6.3 Freeridership and Spillover (Residential)

2.2 Description of Nonresidential Programs

Avista provided incentives and services to its nonresidential electric and natural gas customers throughout its Washington and Idaho service territory in 2016 and 2017.

Avista uses financial incentives and direct installation of efficient measures to encourage its commercial and industrial customers to install energy efficiency equipment. The evaluation team examined all programs and measures that constitute the Avista's nonresidential energy efficiency offerings in 2016 and 2017. Table 2-3 provides a summary of the programs and the sections below provide greater details about each program.

Table 2-3: Key Energy Efficiency Programs

Program	Measure(s)	Implementer	Summary
Prescriptive	Lighting, shell, HVAC, VFDs[a]; Fleet Heat, & Food Service equipment	Avista	Contractors and account managers work with nonresidential customers to identify potential projects, submit paperwork, and process incentive applications.
Green Motor	Repair/rewind of motors	The Green Motors Practices Group (GMPG)	The GMPG non-profit implements the program and addresses motor application and the motor repair/rewind process.
Energy Smart Grocer	Refrigeration controls, LED case lighting, etc.	CLEAResult	Implementer staff conduct outreach to customers with refrigeration equipment (primarily grocery stores) and conduct an energy audit that identifies energy saving projects. If the customer elects to conduct the project(s), implementer staff work with the customer and contractors to install equipment.
AirGuardian	AirGuardian programmable unit	EnSave[b]	Implementer staff conducts installation of AirGuardian units for rotary screw compressors of at least 15 horsepower. Implementer staff also conducts a free walk-through of the site to identify additional energy-savings opportunities and free assistance with low-cost/no-cost energy efficiency programs.
Site Specific	Custom measures	Avista	Contractors, account managers, and program engineers' work with nonresidential customers to identify potential projects, submit paperwork, and verify project savings in order to process incentives.
Small Business	LEDs, facet aerators, etc.	SBW	Implementer staff provide small business customer's (rate schedule 11) brief property assessments and energy efficiency measures such as LED lighting and faucet aerators.

[a] VFD=Variable frequency drive

[b] EnSave implemented this program in 2017. In 2018, the Foursight Energy Group will implement the program.

2.2.1 Prescriptive

Avista's prescriptive program provides incentives and services for the following types of electric- and natural gas-using equipment.

- Food service equipment
- Lighting
- HVAC
- Building shell (Insulation)
- Multifamily development
- Fleet heat heater cord with remote thermostat
- Variable Frequency Drives

These incentives and services are available to customers who purchase eligible equipment, submit a completed application within 90 days after installation, and provide proof of purchase

for all relevant equipment and labor. Customers typically receive their reimbursement about four to six weeks after Avista receives a complete application. Avista reserves the right to inspect the installation before processing the rebate.

2.2.2 Site Specific

Avista provides Site Specific services that include helping customers identify energy saving opportunities and take action to implement those opportunities. Site specific projects may or may not include prescriptive measures but will always include measures specific to a facility. For example, a Site Specific project may include custom controls with prescriptive lighting installed at a given site. Eligible measures must have a simple payback less than 15 years and qualify for $.20 per first year kWh saved for electricity and $3 per first year therm saved. Incentives are capped at 70% of the incremental project cost.

2.2.3 Green Motor

Avista offers incentive of $1 per horsepower for repair/rewind of NEMA rated motors from 15 to 500 horse power. Incentives are paid as an instant rebate from a participating service center. The Green Motors Practices Group (GMPG), a non-profit organization, identifies, promotes, and verifies that participating service centers offer excellent member motor services. That is, the centers are committed to producing repair/rewinds that retain or improve reliability and efficiency of the motor and provide on-site motor driven systems assistance.

2.2.4 AirGuardian

AirGuardian unit is a programmable ball valve designed to isolate compressed air storage during off-hour periods, which in turn, eliminates the demand on the compressor from leaks or timer drains. AirGuardian unit installed in a rotary screw compressor of at least 15 horsepower qualifies for this incentive. The implementation contractor, EnSave, conducts free installation of AirGuardian units at the facility, free walk-through of the site to identify additional energy-savings opportunities, and free assistance with low-cost/no-cost energy efficiency programs.

2.2.5 Energy Smart Grocer

Grocers, convenience stores, restaurants, and any customers with commercial refrigeration are eligible to participate in the Energy Smart Grocer program. The program, implemented by CLEAResult, provides no-cost assessments of eligible facilities that result in recommendations for prescriptive measures the customer could implement to save energy. Measures include case lighting, controls, refrigerated case gaskets, and motors. Similar to the prescriptive program, the customer must submit an application after the installation and usually wait four to six weeks before receiving their incentive. The customer may opt to release the incentive directly to the installation contractor.

2.2.6 Small Business Program

The Small Business (SB) program is a third-party-administered program that provides customer's energy efficiency opportunities by conducting the following activities.

1. Conduct a brief onsite audit to identify customer opportunities and interest in existing

Avista programs,

2. Install appropriate energy-saving measures at each target site, and
3. Provide 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, pre-rinse spray valves, screw-in LED's, smart strips, CoolerMisers, and VendingMisers. In 2015 the SB program was only available to customers who receive electric service under Rate Schedule 11 in Washington and natural gas service under Rate Schedule 101 in Washington. The program added Schedule 11 Idaho customers in 2016 and 2017. Schedule 11 customers typically use less than 250,000 kWh per year. The smaller size and the relatively large number of schedule 11/101 customers makes them a notoriously difficult to reach and underserved market segment. SBW Consulting, Inc., based in Bellevue, WA, started program operations in June 2015 and is under contract to deliver the program through May 2017.

2.3 Description of Evaluated Residential Programs

The evaluation team assessed 2016 and 2017 Fuel Efficiency, HVAC, and Shell electric and natural gas rebate programs in Washington and Idaho. Table 2-4 provides a summary of these programs and the sections below provider greater details about each program.

Table 2-4: Residential Program Type and Description

Rebate Programs	Measure(s)	Implementer	Summary
Fuel Efficiency	Conversion from electric to natural gas furnace, heat pump, or water heater	Avista	Avista staff processes rebates for conversion of electric to natural gas furnace, heat pump, and/or water heater
HVAC Program	Furnace/boiler; smart thermostats, variable speed motor, and duct sealing	Avista	Avista staff processes rebates for purchase of energy efficient and high efficiency HVAC equipment, including variable speed motors, natural gas furnace, boiler, or smart thermostat
Shell	Windows, including storm windows	Avista	Avista staff processes rebate applications for energy efficient windows and storm windows

2.3.1 Fuel Efficiency

Customers interested in switching from electrically fueled heating and water heating equipment to natural gas fueled equipment are eligible for flat-rate Fuel Efficiency Program rebates. Customers who wish to install a free-standing natural gas stove also are eligible to receive a rebate from this program. The rebate submission process is internally managed.

2.3.2 Heating, Ventilation, and Air Conditioning (HVAC) Rebates

Avista offers prescriptive rebates for duct sealing and high efficiency heating equipment, such as 90% AFUE efficient furnaces and smart thermostats. Avista relies on contractors to promote

the program and, to an extent, help customer fill out the application. The rebate submission process is internally managed.

2.3.3 Shell Measures

The Shell program provides prescriptive rebates for windows. Insulation rebate, which was offered through this program, ceased in 2017, and a rebate for storm windows was added in 2017. Contractors generate most of the participants in this program. The rebate submission process is internally managed.

3 Methods

To conduct a process evaluation of selected Avista's energy efficiency programs, the evaluation team reviewed program collateral and data and completed 46 interviews and 592 surveys with market actors, program participants, and nonparticipants. Table 3-1 provides an overview of the data collection activities, including the type of data collection effort and the key topics covered.

Table 3-1: Overview of Data Collection Activities

Data Source (Sample by sector)	Type[a]	When	Analytic Techniques	Key Topics
Wave 1: Staff (13; 8 cross-cutting, 3 nonres. and 1 res.)	Interview	Dec. 2016, Jan.-Feb. 2017	Qualitative, thematic	▪ Program goals ▪ Program processes ▪ Regulatory context ▪ Communication and coordination ▪ Data tracking ▪ Future program opportunities ▪ Outreach ▪ If anything changed (Wave 2 Interviews)
Wave 2: Staff (10; 5 cross-cutting, 3 nonres. and 1 res.)	Interview	Oct. 2017	Qualitative, thematic	
Implementers (2 nonresidential)	Interview	April 2017	Qualitative, thematic	
Contractors (70; 47 nonres. and 23 res.)	Survey	July-Aug. 2017	Quantitative, univariate and bivariate frequencies	▪ Program familiarity ▪ Satisfaction ▪ Motivations to participate ▪ EE Sales practices ▪ Net-to-Gross ▪ T-12 replacement messaging ▪ Suggestions for improvement
High performing contractors (21; 8 nonres. And 13 res.)	Interview	Oct.-Nov. 2017	Qualitative, thematic	▪ Sales focus ▪ How they generate business and leads for the program ▪ Why are they engaged
Participants (387; 212 nonres. and 175 res.)	Survey	Dec. 2016 – Feb. 2018	Quantitative, univariate and bivariate frequencies	▪ Program awareness ▪ Satisfaction ▪ Program experience ▪ Barriers to participation ▪ Freeridership & spillover ▪ Demographics
Nonparticipants (135; 65 nonres. and 70 res.)	Survey	Dec. 2017, Feb. 2018	Quantitative, univariate and bivariate frequencies	▪ Awareness of and interest in Avista's offerings ▪ Upgrades and motivation to upgrade ▪ Barriers to program participation ▪ Spillover ▪ Reactions to T-12 incentive messaging

[a] The Nexant survey call center fielded the surveys and Research Into Action staff conducted in-depth interviews.

The sections below provide a brief overview of the sample and methods used to analyze each data source. The evaluation team first provides an overview where data collection methods were the same for both the nonresidential and residential sectors (cross-cutting) followed by nonresidential, residential, and special study specific methods.

3.1 Cross-cutting activities

3.1.1 Staff and Implementer Interviews

The evaluation team carried out two waves of staff interviews pertaining to the nonresidential and residential portfolios. First wave, conducted in December 2016 and January 2017, included program, engineering, planning, and leadership staff. This set of interviews helped the evaluation team better understand the residential and nonresidential programs and decision-making around how programs are designed, implemented, and tracked, and provided an opportunity for Avista staff to share questions they had for the evaluation. The evaluation team recorded each group interview, with the interviewees' permission. These interviews typically lasted 60 minutes.

The second wave of interviews, conducted in October 2017, targeted the same staff as in the first wave. Additionally, the evaluation team interviewed key implementers of nonresidential programs, including an Avista staff person representing the Energy Smart Grocer program and CLEAResult staff who lead the implementation of the Energy Smart Grocer program. Each interview lasted about 60 minutes. Interviews covered topics such as roles and responsibilities, program goals, communication among staff and implementers, program processes, marketing, program changes, and future program opportunities. The evaluation team integrated results from these interviews into the findings sections of this report.

3.1.2 Contractor Sample and Survey Topics

Using data assembled by Avista staff, the evaluation team identified 413 unique participating contractors or trade allies operating in Avista territory as of May 2017. The evaluation team categorized these contractors as lighting, HVAC, and shell contractors. The team contacted all HVAC and shell contractors on the list, as well as a random sample of lighting contractors, and completed a total of 70 surveys with these market actors. Table 3-2 shows the estimated population and the number of completed contractor surveys by sector.

Table 3-2: Contractor Population and Sample

Type	Estimated Pop.	Sector	Desired Completes	Actual Completes
Lighting	205	Nonresidential	38	42
Shell	75	Residential	19	8
HVAC	33	Nonresidential	19	5
	100	Residential	19	15
Total	**413**		**95**	**70**

Note that while some contractors worked in both the residential and nonresidential sectors, to lower the survey burden, the evaluation team surveyed each contractor about work done in only one of those sectors. The information available in program records did not identify whether a contractor worked primarily in the residential or nonresidential sector. To identify the primary sector served, the survey first asked contractors which sector they were most able to discuss. In 2014-15 the evaluation team received limited feedback from commercial contractors because the survey prioritized those with residential experience. To get more feedback from the commercial work contractors do, in this biennium, the team asked respondents who worked in both sectors to answer questions about their commercial work. This prioritization approach allowed the evaluation team to achieve the desired number of completes for nonresidential contractors, however the team was unable to achieve the desired number of residential completes, the exact opposite problem experienced in 2014-15. In future evaluation approaches, Avista could consider offering incentives to contractors and asking them about both their residential and nonresidential work.

The 47 nonresidential completions provide 85/10 confidence and precision and the 23 residential completions provide 85/15 confidence and precision in the findings.

The evaluation team surveyed all contractors about the following topics:

- Familiarity and satisfaction with Avista energy efficiency offerings, including marketing efforts and program communication
- Motivations to generate leads for the Avista programs
- Sales practices related to energy efficient equipment
- Effective messages at encouraging T12 replacements
- Net-to-gross

3.1.3 High Performing Contractor Sample

The team identified 40 high performing contractors using two sources: 1) Avista staff identified which contractors they think are most active and 2) The contractor survey that identified contractors that completed more than how many Avista projects they completed in the last year. In late October 2017, the team interviewed 21 of these contractors, 13 representing residential work and 8 representing nonresidential work, to understand and document their approach to promoting programs. These interviews lasted approximately 30 minutes each and results were analyzed using MS Excel and qualitative analysis software.

3.2 Nonresidential Activities

Nonresidential data collection activities included surveys with participants and nonparticipants. The evaluation team describes each activity below.

3.2.1 Participant Survey Sample and Methods

The participant surveys covered the following process evaluation related topics:

- Awareness of Avista programs and incentives
- Awareness of energy efficient equipment
- Satisfaction with staff interactions, equipment, clarity of information, time needed to participate, and, if relevant, their audit experience.
- Energy efficient policies and practices

The evaluation team administered the survey in phases to provide Avista staff with up-to-date market feedback throughout the evaluation period (Table 3-3).

Table 3-3: Participant Survey Fielding

Participation Timeframe	Survey Fielding
Q1 to Q3 2016	Jan./Feb. 2017
Q4 2016	Feb. 2017
Q1 2017	May/June 2017
Q2 2017	August 2017
Q3 2017	Oct./Nov. 2017
Q4 2017	Jan./Feb. 2018

The evaluation team analyzed all survey data using *SPSS* and used *MS Excel* to code all open-end responses. The evaluation team examined responses for differences by state (Washington or Idaho) and year of participation (2016 or 2017). The final tally of survey completions provides 95/5 confidence and precision in the findings at the portfolio level.

The evaluation team developed a stratified random sample of participating Avista customers by program and state that included both electric and natural gas customers. The evaluation team estimated the target completions using assumptions about participation as of August 2016. Actual participation varied from the estimates, resulting in fewer survey completions needed in some program types and more for other program types.

Table 3-4 summarizes the targeted and actual number of completions by year, and Table 3-5 shows the distribution of the sample population and survey completes by program.

Table 3-4: Nonresidential Survey Completions by Program Type and Fuel*

	Target Survey Completions			Actual Survey Completions		
Program type	**2016**	**2017**	**Total**	**2016**	**2017**	**Total**
Electric						
Prescriptive Lighting	21	20	41	22	29	51
Prescriptive Non-Lighting Other	12	12	24	11	13	24
Site Specific	35	36	71	20	14	34
Energy Smart Grocer	12	12	24	3	7	10
Small Business	17	16	33	31	47	78
Natural Gas						
Food Service	12	12	24	15	8	23
Small Business	16 to 18	16 to 20	32 to 38	23	21	44
Site Specific	12	12	24	5	1	6
Total	137 to 139	136 to 140	273 to 279	130	140	270

*This is a count of projects, not respondents. Respondents completed surveys for up to three measures.

Table 3-5: Population and Completed Sample Distribution by Program

Program name	2016		2017	
	Sample Population	**Survey Completions**	**Sample Population**	**Survey Complete**
Prescriptive Lighting	997	22	1,070	29
Prescriptive Other	63	11	58	13
Site Specific	105	25	59	14
Energy Smart Grocer	20	3	44	7
Small Business	528	54	959	68
Food Service	62	15	47	8
Total Projects	**1,891**	**130**	**2,467**	**140**

3.2.2 Nonparticipant Survey Sample and Methods

The nonparticipant survey covered the following topics related to the process evaluation:

- Awareness of Avista programs
- Recent history of using energy efficient equipment
- Planned upgrades that will use energy efficient equipment
- Energy efficient policies and practices
- Interest in energy efficiency programs

According to data received from Avista in 2017, there were 31,717 unique nonparticipant

commercial accounts throughout Avista's Washington and Idaho territory. To ensure that the survey correctly represented the proportion of urban and rural areas of each state, the team stratified the random sample by state and urban/rural status (Table 3-6). Urban and rural was determined using the Census Bureau's designation.

Table 3-6: Nonresidential Customer Population and Survey Completes

	Nonparticipant Population of Unique Contacts		Survey Completes	
	Count	Percent	Count	Percent
Rural - ID	3,481	11%	10	15%
Rural - WA	3,849	12%	11	17%
Urban - ID	9,907	31%	19	29%
Urban - WA	14,480	46%	25	38%
Total	**31,717**	**100%**	**65**	**100%**

The evaluation team administered the survey in December 2017 and January 2018 and analyzed the data using *SPSS* for close-ended data and *MS Excel* to code all open-ended responses. Where applicable, the evaluation team identified differences in participant and nonparticipant responses and referenced differences with the 2014-2015 evaluation.

3.3 Residential Activities

Residential data collection activities included surveys with participants and nonparticipants. The evaluation team describes each activity below.

3.3.1 Participant Survey Sample and Methods

The participant surveys covered the following process evaluation related topics:

- Awareness of Avista programs and rebates
- Motivations and barriers to participation
- Program experience
- Suggestions on how to improve the program processes
- Prior participation
- Purchases of energy efficient products

The evaluation team received 2016 and 2017 residential customer account data from Avista on a roughly quarterly basis that identified Fuel Efficiency, HVAC, and Shell rebate participants by state. The participant data contained: 1) measures installed and type; 2) the rebate amount and the date the rebate was received; 3) geographic location (address); and 4) contact information. The data revealed a total of almost 12,000 participants in 2016-17 with about three-quarters of

the participants in Washington and about a quarter in Idaho (Table 3-7).

Table 3-7: Participant Population and Sample

State	2016 Participants		2017 Participants	
	Population	Sample	Population	Sample
ID	1,574	26	1,703	20
WA	3,547	59	5,047	70
Total	**5,121**	**85**	**6,750**	**90**

The evaluation team also monitored the status of the participant survey to ensure the relevant programs and measures were represented in the survey responses. The evaluation team met the target samples for all programs and years (Table 3-8).

Table 3-8: Residential Participant Surveys

Residential Program	Target Completes			Actual Completes		
	2016	2017	Total	2016	2017	Total
Electric						
Fuel Efficiency	20 - 21	20 - 24	40 - 45	21	24	45
Shell	20 - 21	20 - 24	40 - 45	22	21	43
Natural Gas						
HVAC	20 - 21	20 - 24	40 - 45	21	23	44
Shell	20 - 21	20 - 24	40 - 45	21	22	43
Total	**80 - 84**	**80 - 96**	**160 - 180**	**85**	**90**	**175**

The evaluation team stratified the participant sample on a quarterly basis starting in Q1 of 2016 and ending in Q4 of 2017. Table 3-9 shows when participants from each quarter were surveyed.

Table 3-9: Timeframe of Participant Surveys

Participation Timeframe	Survey Fielding
Q1 to Q3 2016	Dec. 2016/Feb. 2017
Q4 2016	Jan./Feb. 2017
Q1 2017	May 2017
Q2 2017	August 2017
Q3 2017	Oct./Nov. 2017
Q4 2017	Jan./Feb. 2018

3.3.2 Nonparticipant Survey Sample and Methods

The nonparticipant surveys covered the following process evaluation related topics:

- Awareness of Avista programs and rebates
- Barriers to participation
- Past participation
- Past purchases of energy efficient products
- Future purchases of energy efficient products

The evaluation team received a list of all Avista customers and then scrubbed the list of all participants to prepare the nonparticipant sample. The nonparticipant data contained geographic location (address) and contact information. The 2016 and 2017 data included approximately 470,000 residential customers, and the evaluation team removed almost 12,000 Fuel Efficiency, HVAC, and Shell participants in 2016 and 2017.[2]

The nonparticipant sample was stratified by state (WA or ID) and urban area (whether living in urban or rural zip codes). Table 3-10 summarizes the population and sample of nonparticipants by state.

Table 3-10: Sample Distribution for Residential Customers and Nonparticipant Sample

	Customer		Sample	
	Count	Percent	Count	Percent
WA-Urban	265,533	56%	35	50%
WA-Rural	43,471	9%	8	11%
ID-Urban	125,669	27%	19	27%
ID-Rural	38,575	8%	8	11%
Total	473,248	100%	70	100%

Where applicable, the evaluation team identified differences in participant and nonparticipant responses and referenced differences with the 2014-2015 evaluation.

[2] At the time we drew the sample, the evaluation team had participant data for all 2016 and 2017 Quarters, except 2017 Q4.

4 Cross-cutting Sector Findings

The evaluation team interviewed Demand Side Management (DSM) leadership team members, program managers, and planning and technical analysts. The team also reviewed available documentation pertaining to Avista's residential and nonresidential programs. These research activities informed our understanding of the organization, effectiveness, and efficiency of the DSM Group, as well as informed our overall understanding of Avista's efficiency efforts and the development of the other data collection instruments.

4.1 Organization of the DSM Group

4.1.1 Overall Structure

At the time of the 2016-2017 evaluation, most of Avista's DSM-related activities were led by a Director of Energy Efficiency (EE) and EE staff (hereafter referred to as the DSM Group). The Avista staff outside of this group with responsibilities related to DSM efforts fell into the following categories 1) key account executives who manage large commercial accounts (they report to the Director of Customer and Shared Services); 2) legal staff involved with the regulatory affairs under the Rates and Regulatory Affairs Compliance Group and; 3) marketing staff.

4.1.2 DSM Group Responsibilities

The Director of EE and the Director of Policy of Rates and Regulatory Affairs Compliance Group ensure that Avista's DSM enterprise adheres to regulatory requirements. The Director of EE provides testimony when needed and is supported by analysts, planners, engineers, and program managers.

The roles and responsibilities of the DSM Group and other stakeholders are depicted below (Figure 4-1).

Figure 4-1: DSM Roles and Responsibilities

When discussing responsibilities of DSM staff, one Avista staff person reported that some on the public counsel expressed a desire for Avista's Analytics and Planning department (a subgroup within the DSM Group) to be responsible for the updates to the Technical Reference Manual (TRM), which now is the responsibility of the engineering group (another subgroup within the DSM Group).

Interviews with the Avista's marketing contact as well as the evaluation team's review of Avista's marketing documents show that Avista conducted the following marketing and outreach activities in 2016 and 2017:

- Outreach to HVAC associations;
- Print advertisements in local or regional trade publications;
- Television, radio, and online advertisements;
- Horizon and Alaska Airlines in-flight magazine advertisements;
- Partnerships with home builders and other specialty groups to promote efficiency; and
- Promotions via social media (Facebook and YouTube).

4.1.3 DSM Group Changes

Avista's leadership made a few organizational and staffing changes since January 2016.

1. A new DSM Planning and Analytics Manager was hired in early 2017 and the former manager took another position in Avista. The department also hired a DSM Analyst.
2. The DSM Group occasionally rotates program mangers across the various DSM programs to expose staff to all programs in the portfolio. As part of that rotation, the former Simple Steps manager shifted to the commercial lighting program in early 2017.
3. Avista occasionally rotates staff to different areas in the utility to expose them to multiple aspects of the organization. As part of this effort the DSM Manager took a one-year assignment in the Wholesale Marketing Department and a temporary DSM Manager assumed responsibility for the DSM department in the Spring of 2017.

4.2 DSM Group Effectiveness and Efficiency

4.2.1 Leadership Structure

Three staff reported the current leadership structure works better than the previous structure. Currently, there is one leader, the Director of EE, who is responsible for program implementation and meeting regulatory requirements within the DSM Group. Under the prior structure (an organizational structure prior to 2015), one leader focused on regulatory issues, while the other focused on program implementation. According to staff, this split in responsibilities sometimes led to communication problems between the two groups. Staff reported that the new organizational structure is more collaborative and effective.

One staff person who noted the new leadership structure is more effective than the previous explained:

> *"You can run a program where rules be damned because the customer is always right, or we should be so conservative that we want to make sure that everything from a regulatory perspective is completely tight that it becomes so onerous for customers to*

participate in our programs. So, I see those as the two ends of the spectrum and having exposure to both of those ends from a leadership perspective gives better understanding of the different conflicts that each side can potentially run into."

This staff person also said that focus on the customer is important when delivering a program, a viewpoint which the contact thought was an improvement.

4.2.2 Adaptive Management

Interviews with Avista's DSM Group revealed that they constantly learn from their experiences and adapt programs to reflect their learning. They monitor the portfolio performance to ensure they reach savings goals cost effectively and respond quickly when issues arise. As noted in the DSM Group Changes section above, they periodically rotate program managers through the various programs to cross-train them in all aspects of DSM. This cross-training allows managers to be better prepared to fill-in for others when managers are out of the office or leave the program, or when one program sees a large uptick in participation that requires more attention than typical.

Staff provided the following examples in support of their assertion that they continually adapt program implementation to meet market demands:

- A residential program manager, at times, will interview customers who have never participated and those who had participated in multiple programs (that is, the extreme cases) to better understand what process changes might facilitate participation.
- Program staff often ask themselves questions they characterize as "How might we" (HMW) improve the program. HMW questions enable staff to frame the problem and then brainstorm the solution. For example, when DSM staff used the HMW approach to learn about indoor agriculture, staff learned that cannabis growers do their business transactions in cash.[3] Staff realized that Avista needed to meet their basic needs first (accepting large bill payments in cash) before talking with them about energy efficiency upgrades.
- Staff conduct quality assurance checks to assess whether programs are functioning as intended. For example, engineers overseeing the Site Specific projects will visit the site to assess whether there are inconsistencies between what is stated on the application and what they find "on the ground." When problems are spotted, staff adapts the application process to optimize the accuracy of the gathered data and ensure participants cannot "game the system."

[3] The State of Washington has legalized recreational cannabis, whereas the U.S. government has not. Thus, the cannabis growers cannot use traditional banks due to federal laws against cannabis growing.

- To reach the traditionally underserved small business market, the DSM group launched the Small Business program in 2015 and they built on that program to reach the underserved multifamily housing market.
- Over recent years, the DSM group has worked to develop a closer relationship with contractors. One program manager noted program staff are reaching contractors more regularly than they have in the past and the new program database that will launch in 2018 will provide the program with greater understanding of contractor activity. For example, knowing the number of projects in which contractors are involved will enable them to better target contractors with program specific information, such as training opportunities and program changes.

Additionally, the DSM Group participates in professional activities that help them improve their programs. For example,

1. Staff regularly interact with the Advisory Group[4] to receive feedback on the DSM business plan, annual and biennium plans, pilots and ongoing programs, annual reports, and how to meet savings targets.
2. Staff contribute to the Regional Technical Forum (RTF) and attend the Northwest Energy Efficiency Alliance (NEEA) board meetings, which helps them understand what other utilities or organizations are doing in the region.
3. Staff participate and attend conferences and workshops each year including the Efficiency Exchange conference.
4. Staff also contract with consultants to help design or advise on evaluation, measurement, and verification (EM&V) plans or framework, in addition to conducting the bi-annual impact and process evaluations.

4.2.3 Administrative Efficiency

The DSM Group recently acquired the iEnergy data management platform. Staff anticipate that iEnergy soon will be a hub for all DSM program tracking data. Currently, staff utilize multiple databases for program tracking and report that these databases are not capturing all the information needed to fulfill certain internal or external data requests. Two contacts explained: when asked to verify the savings associated with the rebated tubular LEDs or TLEDs, staff had to go back to the paper records to extract the wattage values of the installed bulbs. Staff noted difficulties in capturing more detailed data in the existing databases. Their hope is that iEnergy will lessen these difficulties and offer them many useful features, such as a dashboard of real time portfolio and program performance, a portal for external parties, such as vendors or trade

[4] The Advisory Group is comprised of members of the staffs of the Washington and Idaho Commission, the Northwest (NW) Power Planning Council, and the NW Energy Coalition, as well as individuals representing the Washington Department of Commerce, low income customers, consultants (such as SBW), Pacific Northwest utilities, and others (such as NEEA).

allies, an ability to link trade allies to projects, analytics tools, and a way to streamline program administration steps.

Staff also noted two additional activities that contribute to operational efficiency:

- Avista's accounting records are audited periodically. Regulators audit them and, occasionally, Avista will contract with independent financial auditors to assess its financial transactions, including DSM.
- The DSM Group changed their documentation practice by adding a section in the 2016 Annual Report that describes the 2014-15 evaluation recommendations and Avista's responses to the recommendations. It is the evaluation team's understanding that Avista will do that for the 2018 Annual Report presenting the 2016-17 evaluation. Additionally, the evaluation team summarized what it heard about the status of these recommendations during staff interviews in section 4.2.4.1

According to program staff, the relationship between Avista and third-party implementers has been efficient and effective. Program and implementer staff described good working relationships that involved regularly scheduled meetings and open lines of communication between the two groups. For example, a program manager stated, "we have a great relationship with [the small business implementer]." According to this manager, the small business implementer provides a daily update of program activity that enables the manager to see how the field staff are progressing towards goals. Furthermore, the program manager and the field staff stay in regular contact to address any problems that arise in the field.

As part of the impact evaluation activities, the evaluation team reviewed Avista's program participation tracking databases for accuracy and consistency. The participation databases were requested and received on a quarterly basis. The evaluation team reviewed the database for alignment with reported deemed savings values against Avista's most current Technical Reference Manual (TRM). The evaluation team did find inconsistencies throughout the 2016 and 2017 program years with residential reported deemed values compared to values noted in the TRM.

4.2.4 Transparency

4.2.4.1 Between DSM Group and Outside Stakeholders

The DSM staff reported they strive to be fully transparent with the Washington and Idaho utility commissions as well as other external parties by documenting decisions made, providing commission staff and Advisory Group participants with draft documents for their feedback, and attending Advisory Group meetings to discuss pilots, programs, plans, and concerns. One contact emphasized that regular interactions with the Advisory Group and the commission staff help the DSM staff understand the commissions' expectations and provide Avista an opportunity to educate new commission staff about the nuances of running a DSM program in its territory.

The Analytics and Planning staff provide monthly and annual reports on DSM activities to the Washington and Idaho regulators. The Analytics and Planning Group answers regulators' specific questions about topics such as cost-effectiveness of measures and program planning.

Staff reported the Washington commission staff at times have acted as if responses from DSM staff was suspect. To remedy this, staff noted they proactively engage the Advisory Group and the commission staff to receive feedback on especially contentious issues raised by the commission. This helps them to understand commission concerns, communicate Avista's perspective and provide needed documentation to address any requests. Staff provided two examples of recent contentious issues and how they responded:

1. The Washington commission expressed a concern that Avista might have over-incentivized participants who installed a TLED measure given the measure's 71% realization rate. The commission asked Avista to verify the TLED kWh savings. Avista required customers to give a proof of DLC-listed[5] kWh savings; those savings, however, were different from that printed on the bulb or the box. When Avista changed the program rules to accept what was printed on the bulb or the box, commission staff thought Avista may have over-payed customers. Avista staff reviewed all applications and supporting documentation to verify the difference in the two savings estimates and shared those findings with the commission, which resolved the issue.
2. Avista and Washington commission staff have engaged in discussion about the appropriateness of including fuel conversions (Fuel Efficiency) in Avista's DSM portfolio. As part of the discussion, Avista staff developed a presentation for the commission to explain the utility's stance and shared the presentation with the Advisory Group to gather feedback. This issue is currently pending.

Staff also noted they proactively engage commission staff and the Advisory Group on any reported items that might look strange or might change from year to year. One contact provided the following example:

> *"If you compare the 2017 and 2016 savings for the nonresidential sector, there's about a 7% decrease. But if you look at the incentives predicted to be paid between 2016 and 2017, there is a 17% decrease. So, we can say, yes, we are paying less incentives next year, but we are expecting to continue to achieve similar kWh savings. The incentives are going down, for instance, because one of the highest through-put incentives is going from $15 to $6.50. So, you can see where that would have an impact. So sometimes it is helpful to dive into programs and measures to explain what has happened at the portfolio level."*

[5] DLC=Design Lights Consortium

One contact reported that Avista has received, informally, positive feedback about its interactions with the Washington commission and the Advisory Group. The group also received written comments on an Avista memo that noted Washington commission staff appreciate Avista actively engaging its Advisory Group.

Lastly, part of being transparent pertains to the DSM staffs' interaction with the evaluation team. Staff noted that they immediately discuss any issues or problems with evaluators. In these instances, the DSM staff turns over data and files for evaluators to review and assess. This assessment is consistent with that of the evaluation team, which had no problems getting data from Avista. Avista staff responded promptly and sufficiently to evaluation team questions and requests.

As noted, Avista DSM staff responded to the conclusions and recommendations of the 2014-15 evaluation in the 2016 DSM Annual Report. The evaluation team explored these with staff; Table 4-1 presents the findings.

Table 4-1: Indications of DSM Group's Responses to Past Evaluation

2014-15 Process Conclusion	Indications of Responses to Past Evaluation
Cross-cutting	
Conclusion 1: Contractors are key program partners.	▪ Staff reported purchasing new software that will help them better target contractors for program communications, among other benefits.
Conclusion 2: Although Avista and its implementation contractors deliver rebate programs efficiently, additional program promoting could help maintain or even increase participation.	▪ Staff indicated that their review of program participant data suggests a notable percentage of Small Business participants also participate in other programs, evidence of effective cross-program marketing.
Nonresidential	
Conclusion 3: Although declining participation rates could threaten Avista's ability to achieve long-term goals, evaluation results point to opportunities to drive additional savings.	▪ To reach the traditionally underserved multifamily sector, Avista is beginning a direct-install program, similar to the Small Business program. ▪ Avista investigated providing T12 replacements to small businesses for free to determine the cost-effectiveness of that strategy to deliver savings.
Residential	
Conclusion 4: Participation in the Avista rebate programs has rebounded since 2013 driven by a fivefold increase in shell program participation.	▪ Nothing specific mentioned here. However, program databases indicated participation grew substantially in the Fuel Efficiency program in this biennium.
Conclusion 5: Residential customers who rent their home are underserved.	▪ By reaching out to multifamily properties via the 2018 Multifamily program, Avista is reaching out to renters.

4.2.4.2 Between DSM Group and Other Avista Departments

Avista has a process for preparing regulatory filings and meeting other requirements. The Director of the DSM Group will meet with his team leaders, identify what needs to be addressed, and assign responsibility to appropriate staff to provide the information to the Director of Policy of Rates and Regulatory Affairs Compliance Group (another Avista department). The Director of Policy reviews the filings and once comfortable with the information passes the information to the President of Rates and Regulatory Affairs Compliance Group, who is the Regulatory Attorney. It is an involved process and the Director of Policy must receive information from the DSM Group at least a week prior to the filing date to be able to review and finalize filings. Rates and Regulatory Affairs Compliance Group is responsible that “all the I’s are dotted, and the T’s are crossed” for regulatory purposes.

4.2.4.3 Inside the DSM Group

DSM leadership reported regular meetings among and between the DSM staff. These meetings serve to facilitate communication among the teams including conveying any concerns regulators may have, discussing new systems such as the online portal for nonresidential projects, and soliciting information from team members about ways to improve the programs.

5 Nonresidential Process Results

The sections below provide the results of the process evaluation of Avista's nonresidential programs. This section begins with an overview of the program administration and the successes and challenges program staff experienced in their work. Subsequent sub-sections discuss program awareness among market actors, customer decision making, the program experience of contractors and participants, and opportunities to increase program participation. This section ends with an examination of freeridership and spillover over the last four years.

5.1 Program Administration

The evaluation team interviewed the managers of each nonresidential program covered in this evaluation. The following section describes the key points noted by staff regarding the administration of the nonresidential programs and possible program changes.

Nonresidential program staff and implementers did not report any systemic problems or issues of concern in program implementation with either the Avista run programs (Prescriptive and Site Specific measures) or the third party administered programs (Small Business and Energy Smart Grocer). All program mangers reported smooth internal communications with one another and those responsible for communicating with third party implementers reported effective communication with the implementers.

Staff identified successes and challenges they experienced in their administration of the nonresidential programs.

5.1.1 Successes

Program staff identified multiple successes with their programs. Specifically:

Prescriptive and Site Specific

- Staff reported, and participants largely agreed (Section 5.4.2), customers are satisfied with the participation process and savings they realized because of their participation in Avista programs.
- Customers particularly appreciated the T12 and T8 conversions projects. According to staff, the program assisted the "vast majority" of customers with these projects and these projects resulted in customers telling other businesses about Avista's programs.
- Staff reported appreciating Avista's purchase of a new data tracking system (iEnergy) that will allow Avista to better understand how contractors interact with the program. Having this data will allow Avista to continue to follow through with responding to the 2014-15 evaluation recommendations that specified increasing and maintaining relationships with contractors.

Energy Smart Grocer (ESG)

- The implementer has re-energized interest and participation in ESG by proactively reaching out to customers other than groceries, such as restaurants and retailers. This outreach in conjunction with new case lighting and motor technologies resulted in increased participation. According to one staff person, the market appeared to be approaching saturation four years ago but participation increased in 2016 and 2017 suggesting the market is not yet saturated.

Small Business

- The Small Business program runs very smoothly with good communication between Avista and the implementer and staff reported effective communication between field staff and customers.
- Surveys and anecdotal evidence from interactions with customers show that customers are largely satisfied with the program and the installed measures.
- Staff reported some initial evidence that Small Business participants are participating in other programs, a desired effect of the Small Business program.
- The program delivered more savings than anticipated at the program outset.
- Very few customers rejected the program when approached. According to one staff person, 16 customers out of about 5,600 participants (the number of participants at the time of the interview), chose not to participate in the program. This report is consistent with the last evaluation that focused on the Small Business program and that evaluation noted very few customers refused the program service.

5.1.2 Challenges

Staff noted the following challenges facing Avista administered programs and the Energy Smart Grocer program. Staff reported no challenges managing or implementing the Small Business program.

Prescriptive and Site Specific

- Current participant databases are inadequate for the reporting needs of all staff. Staff would like the ability to run more granular reports such as know the exact amount of each light installed at each project and the cost of each lighting measure. Another staff person suggested accessing historical project data can be difficult in order to show participation trends over time. Staff also indicated that the current participant database does not provide them with insights into the activity of contractors. Avista purchased iEnergy, their new participant database coming online in 2018, partially to address these challenges.
- Staff reported struggling to engage non-lighting contractors and reported having trouble booking non-lighting projects, especially natural gas projects. According to one staff person, getting HVAC contractors to training has been particularly difficult and natural gas project uptake, especially in Idaho, is limited to single digits over the biennium.

- Outreach to some customers continues to be a challenge. Some customers do not take the necessary steps to participate in programs suggesting customers are not informed or misinformed about how to participate in programs. According to staff, some customers contact Avista after they have started a project, making them ineligible to participate and denying Avista potential savings.
- Staff sometimes struggle to work with customers that are interested in a project but do not have a contractor. Avista staff cannot recommend a specific contractor, but customers often want a recommendation.

Energy Smart Grocer (ESG)

- Several years ago, the program switched from considering all ESG measures as prescriptive to considering some as Site Specific. This switch caused some internal challenges related to how projects were approved. The program staff and the implementer eventually developed a process that made this switch work.

5.2 Program Awareness and Involvement

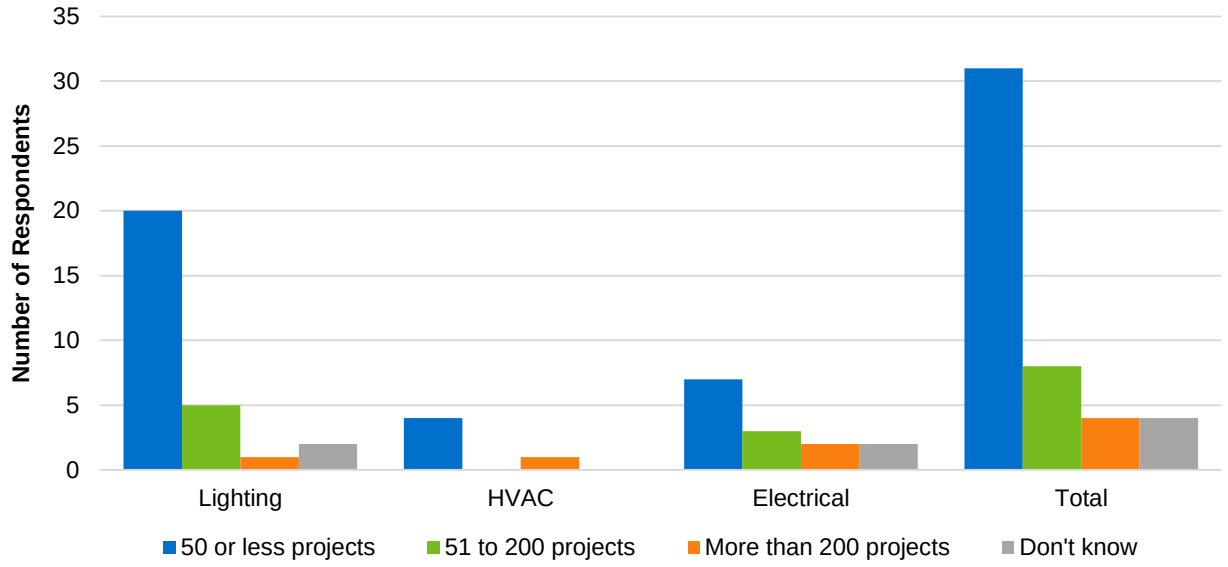
To identify how customers become aware of Avista's programs, the evaluation team asked contractors, participants, and nonparticipants how they learned about programs and about their reasons for participating. The sections below summarize each group's program awareness and contractors and participants involvement in programs.

5.2.1 Contractor Involvement

Contractor respondents have generally been aware of Avista's incentives programs for many years. Almost three-quarters (72%) reported doing jobs for more than five years, 11% have been doing jobs for between four and five years, and 17% have been doing Avista jobs for two to three years.

Most nonresidential contractor respondents identified themselves as lighting contractors (60%) followed by electrical contractors (30%) and HVAC contractors (11%). Additionally, most firms do less than 50 jobs per year with a minority completing more than 50 per year and the distribution did not differ by contractor type (Figure 5-1).

Figure 5-1: Nonresidential Contractor Jobs Per Year



Consistent with findings in the 2014-15 evaluation, lighting and electrical contractors report greater use of Avista programs than their HVAC counterparts. Forty-four of the 47 nonresidential contractors surveyed were able to estimate the proportion of their commercial jobs that receive an Avista rebate. On average, lighting contractors noted that about half their projects (51%) receive an incentive followed by electrical contractors averaging 34% of their projects receiving incentives. Nonresidential HVAC contractor projects receive an incentive about 2% of the time according to respondents.

5.2.2 Customer Awareness

5.2.2.1 Sources of Awareness

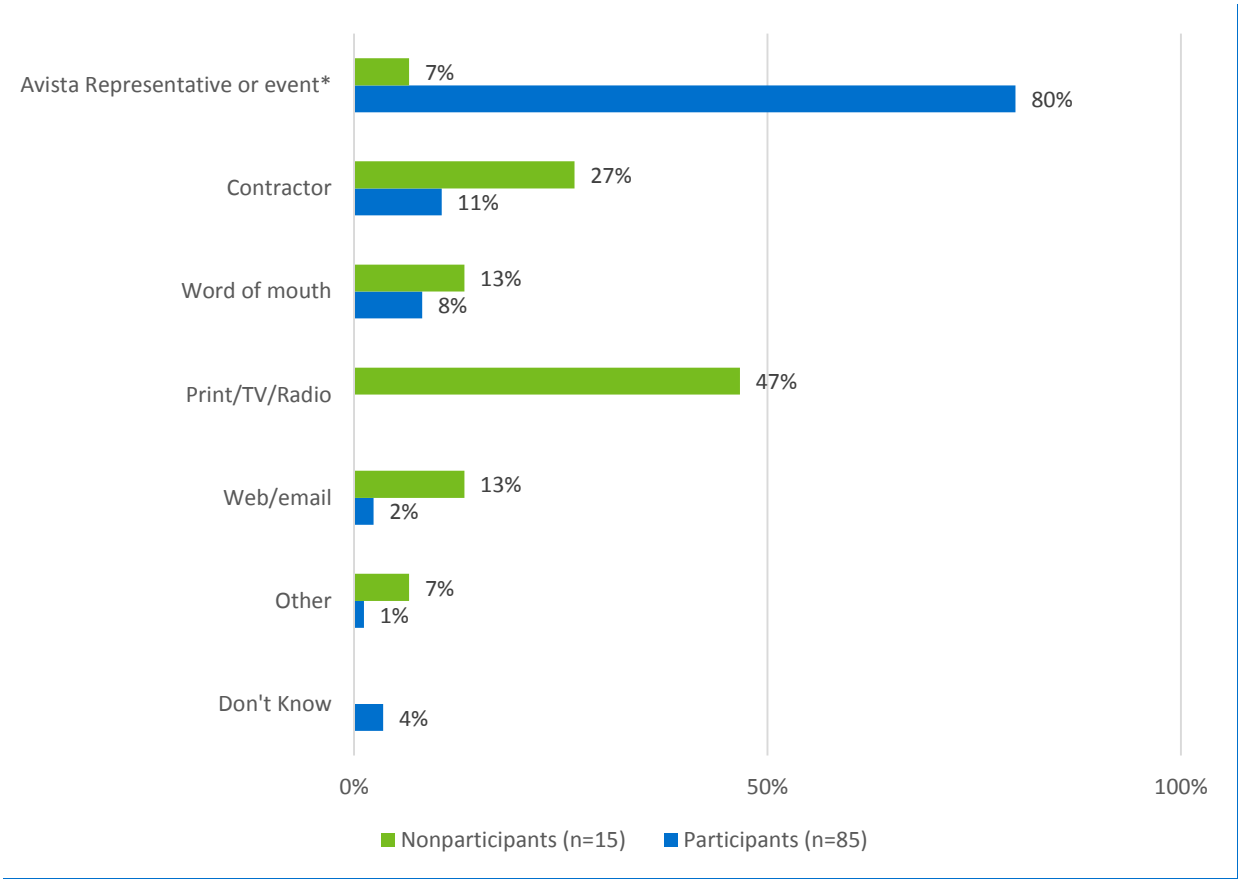
Compared to nonparticipants that were aware of the program (*n* = 36), participants were more likely to have heard about the program through an Avista representative, reflecting the reach and design of the Small Business program that relies on outreach by a representative. Nonparticipants were more likely to report that they heard about the program via print advertisements or through the web.

To better understand awareness by business size, the evaluation team compared Small Business participant awareness to small and medium-sized nonparticipants and compared those that participated in Prescriptive and Site-Specific programs, typically larger customers, by large key account nonparticipants.

This analysis reveals that reaching small businesses using Avista representatives is a key way to raise awareness about Avista programs. Small Business participants were far more likely to be aware of Avista programs because of their interaction with an Avista representative than any

other method and nonparticipants were most likely to report awareness of the program from some type of advertisement in print, TV, or radio (Figure 5-2).

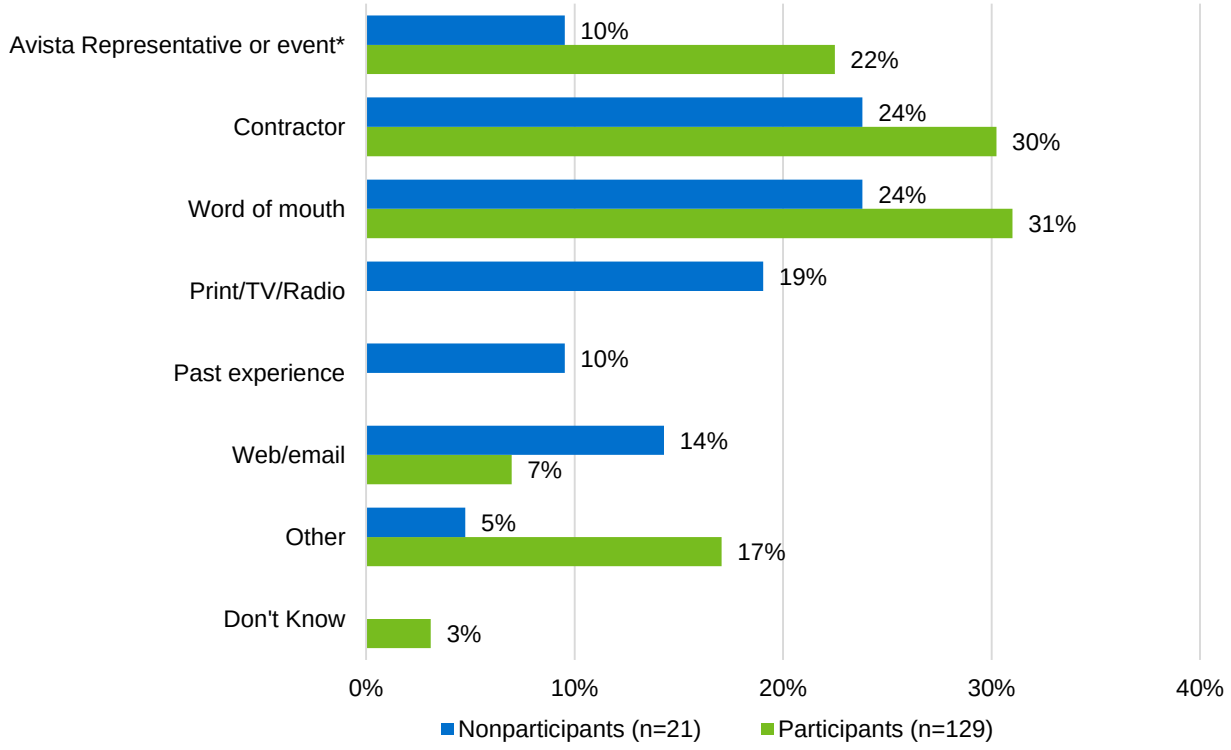
Figure 5-2: Likely Small and Medium Business Customer Source of Program Awareness (Multiple Response Allowed)



* (Z-test, *p*>.05)

Among large businesses, awareness did not differ as much participation status, however there was some difference noted between nonparticipants and participants reporting awareness via advertisements – 19% nonparticipants reported awareness via ads and no participants reported awareness via ads (Figure 5-3).

Figure 5-3: Likely Large Business Customer Source of Program Awareness (Multiple Response Allowed)



* (Z-test, *p*>.05)

5.2.2.2 Participants Program Awareness

Among participants, program awareness differs by the type of program nonresidential customers participated in. Small Business participants typically learned about Avista's efficiency programs via an Avista representative whereas participants of other programs typically heard about programs via several different sources: contractors, word-of-mouth, web or email, and other sources. The difference in sources of awareness is likely related to the delivery mechanism and approach of the different program types.

Just over half of all participants (54%) reported awareness of other Avista programs and this did not differ by program type. Of the 116 participant respondents aware of other programs, the majority were aware of programs for lighting (58%) and HVAC (31%). Far fewer were aware of Avista's services for insulation, food service equipment, and other efficiency measures. Ninety-one percent of respondents aware of other programs indicated they were very or somewhat likely to contact Avista to make future upgrades suggesting most participants had a positive experience with their participation. Of those who reported they were not at all likely to contact Avista when making upgrades three suggested the process was too cumbersome, one reported being in the process of selling their business, and the remaining five respondents did not specify their rationale.

Half of all participants aware of other programs indicated participating in Avista programs in the past and more Prescriptive, Site Specific, and Energy Smart Grocer program participants reported past participation (59%) than their Small Business counterparts (36%) (Z-test, $p< .05$). This finding is consistent with the approach and design of the respective programs as the Small Business program was designed to reach traditionally underserved customers. The majority of past participants completed lighting projects (83%) and a few (9%) made HVAC upgrades. Far fewer participants completed water heater (2), solar (2), shell (1), refrigeration (1), motor (1), or air compressor (1) upgrades.

5.2.2.3 Nonparticipants Program Awareness

Nonparticipant program awareness did not significantly change from the 2014-15 evaluation and awareness of rebate types did not change significantly. Among the 36 nonparticipants surveyed in this evaluation and aware of Avista rebates, about half (47%) reported familiarity with Avista's prescriptive lighting offering (Table 5-1). Larger organizations, those designated as key accounts by Avista[6], were more likely to report awareness of Avista's lighting rebates (77%) than smaller organizations (24%) (Chi-square ($p < .05$). Most nonparticipants were unfamiliar with other business offerings from Avista.

Table 5-1: Nonparticipant Awareness of Avista Rebates (*n*= 36, Multiple Responses Allowed)

Rebates Familiar With	Count	Percent
Prescriptive Lighting	17	47%
HVAC Program	4	11%
CFL & LED Store discounts	2	6%
Insulation	1	3%
Custom program	1	3%
Green Motors	1	3%
Air compressors	1	3%
Other	5	14%
Don't know	11	31%

5.2.2.4 Preferred Method of Contact

Customers generally identified email as the preferred method of contact about Avista program opportunities. Of the 62% of nonparticipants interested in getting additional information from Avista about efficiency opportunities, nonparticipants were more likely to prefer receiving

[6] Designated as "LGCOM" in the program database.

information via email compared to participants and participants were more likely to prefer getting program information from the Avista website (Table 5-2).

Table 5-2: Nonresidential Customer Preferred Method of Receiving Information from Avista (Multiple Responses Allowed)

Preferred Method of Contact	Nonparticipants (*n* = 40)		Participants (*n* = 214)	
	Count	%	Count	%
Email*	27	68%	108	50%
By US mail separate from bill insert	12	30%	45	21%
By US mail via bill insert	10	25%	63	29%
Avista website*	2	5%	55	26%
By phone	2	5%	13	6%
Person-to-person	-	-	10	5%
Trade groups	-	-	5	2%
Don't know	-	-	3	1%
Other	2	5%	5	2%
Refused to provide contact method	-	-	2	1%

* Significant ($p < .05$)

Small and medium company[7] nonparticipants were more likely to prefer receiving information about Avista's energy efficiency programs via US mail separate from a bill insert (58%) than larger organizations (5% preferred this method) (Chi square, $p < .05$). Similarly, a larger proportion (81%) of large-size businesses reported email as a preferred method of receiving Avista information than smaller businesses (53%).

5.3 Influences on Customers Decision Making

The next few sections review how and what influences customers to make energy efficient decisions. This section begins with a review of customer's energy policies and practices, moves into a description of customer motivations from the perspective of contractors and participants, and concludes with a review of how contractors, especially high performing contractors, influence customers with their sales practices.

5.3.1 Energy Practices and Policies

A majority of participants (60%) and nonparticipants (66%) have formal energy practices and policies in place. Most commonly reported among participants was having a person responsible

[7] Designated as "COM" in the program database as opposed to "LGCOM" which are very large key accounts.

for managing energy usage, whereas nonparticipants were more likely to report having a policy for energy efficient purchasing (Z test, $p<.05$) (Table 5-3).

Table 5-3: Energy Savings Policies and Practices

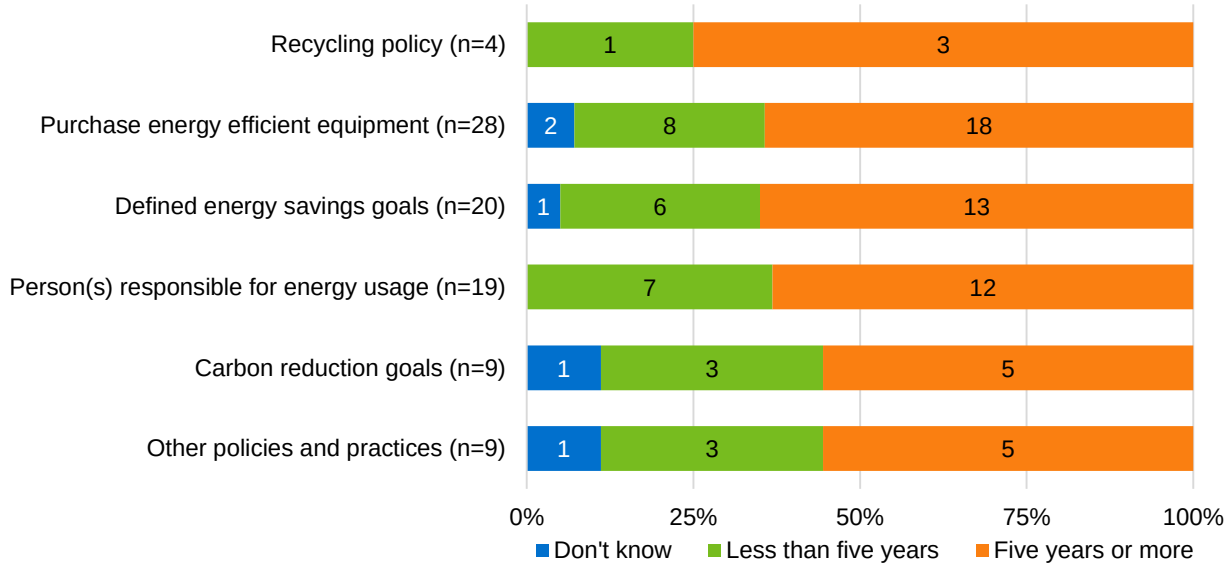
	Nonparticipants (*n* = 65		Participants (*n* = 214)	
	Count	Percent	Count	Percent
Any policy or practice	43	66%	128	60%
Person(s) responsible for energy use	19	29%	90	42%
Policy requiring energy efficient purchasing*	29	45%	64	30%
Defined energy savings goals	21	32%	53	25%
Carbon reduction goals	9	14%	27	13%
Recycling policy	4	6%	0	0%
Other[a] *	9	14%	0	0%

[a] Among nonparticipants that reported other policies, five reported unspecific, general practices for conserving energy and water, two reported changing equipment setting, such as using timers on lighting and sprinklers, and two did not provide an answer specifying the other practice.

* Significant difference (Z-test, $p<.05$).

The evaluation team also surveyed nonparticipants about the length of time their energy saving policies and practices were in place. Most nonparticipants who had policies or practices related to energy management reported that they had been in place for five years or more, with a smaller proportion — about one-quarter to one-third — reported having policies for less than five years (Figure 5-4).

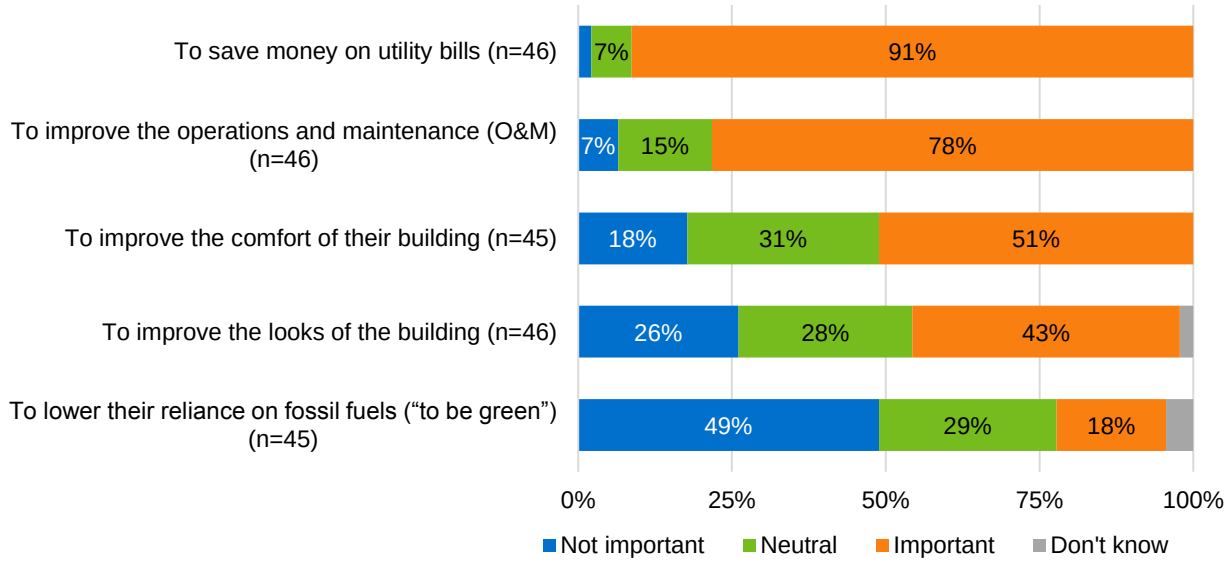
Figure 5-4: Length of Time Energy Related Goals and Policies Have Been in Place at Nonparticipants' Organizations



5.3.2 Customer Motives

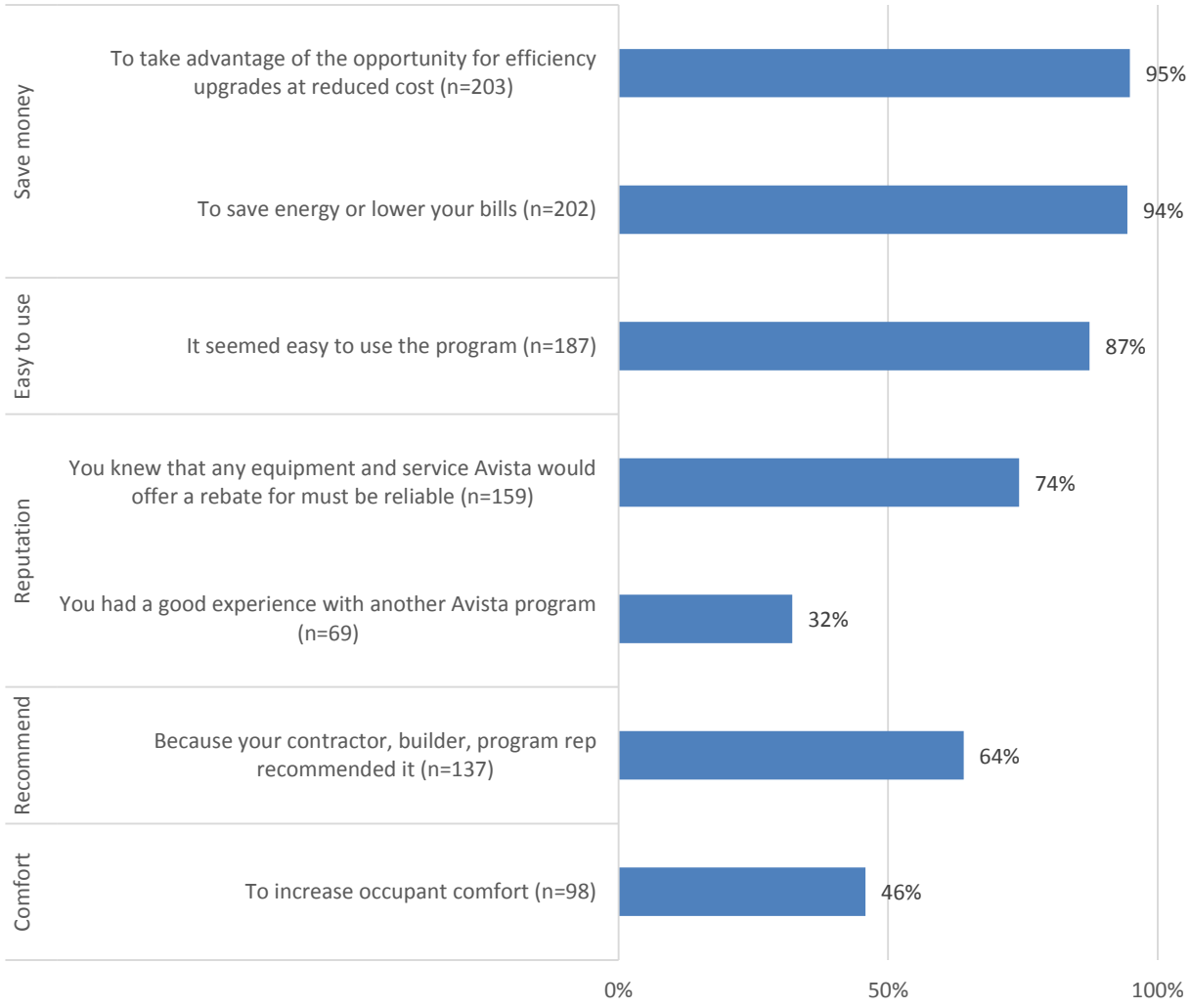
Contractors reported that customers typically do projects to save money and improve operations and maintenance. Customers, according to contractors, were less motivated by improving the comfort or looks of their buildings and few were motivated by lowering their reliance on fossil fuels (Figure 5-5).

Figure 5-5: Contractors Perspective on Why Customers Do Avista Projects



Participant motivations reflected contractor’s perceptions of customer motivations in two ways. Like contractors, participants reported saving money, either on their energy bills or on the upgrades, more than any other reason to participate. Additionally, almost half (46%) of participants reported they made the upgrade to improve occupant comfort similar to the 51% of contractors that stated improving comfort as important to customers. Other reasons respondents chose to participate were due to the ease of using the program followed by the reputation of the programs, and contractor recommendations (Figure 5-6).

Figure 5-6: Motivations for Participating in the Program (Multiple Responses Allowed)

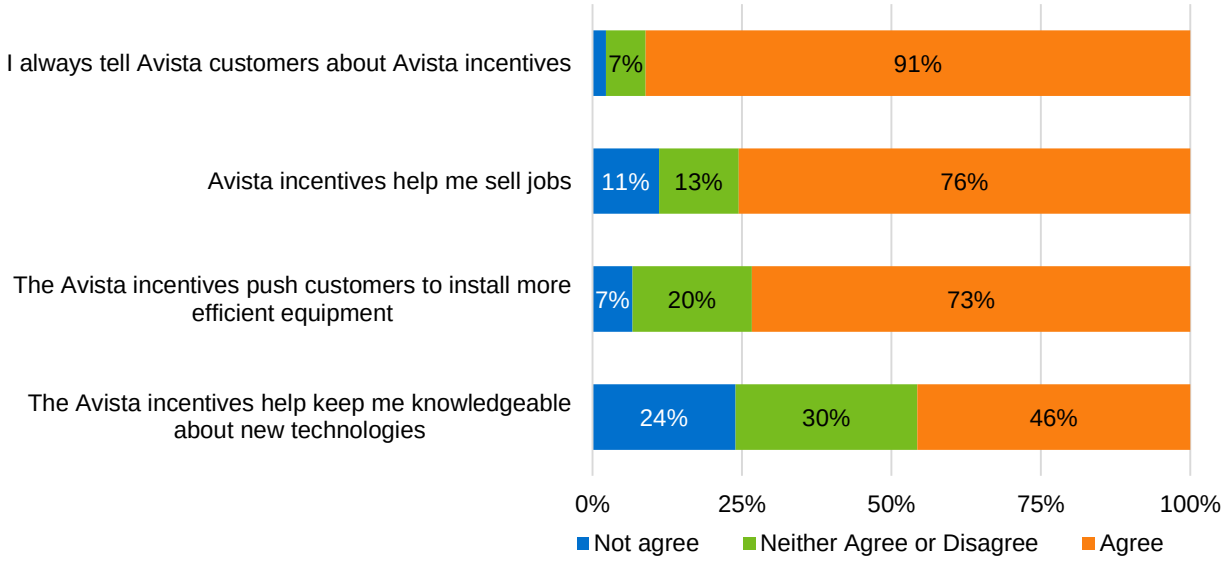


5.3.3 Contractors' Sales Practices

Contractors agree that Avista's programs help them sell work and install efficient equipment. Survey results indicate that contractors are notable sources of awareness about efficient equipment for customers and they are a key player in completing customer applications. Furthermore, improving operations and maintenance costs appears to be a strong motivator for commercial customers to complete efficiency projects.

Commercial contractors largely agree that Avista incentives help them get work and nudge customers to install more efficient equipment than they may have otherwise. Contractors were less convinced that the program helps keep them knowledgeable about new technologies (Figure 5-7).

Figure 5-7: Contractor Perceived Value of Avista Rebates (*n*=45)



Contractors reported they almost always tell their customers about Avista incentives when they initiate projects (91% as noted in Figure 5-7) whereas customers rarely bring up Avista incentives when they initiate projects.

- Of the 43 contractors able to estimate the percentage of time they tell customers about Avista incentives, more than three-quarters reported they tell customers about Avista incentives in more than 80% of their interactions.
- Less than 12% reported telling customers about incentives less than half the time.
- Of the 40 contractors able to estimate how often customers ask about incentives, slightly more than half (55%) reported customers ask about incentives less than half the time and slightly less than half (45%) reported customers ask about incentives more than half the time.

Roughly half of contractors reported they rely largely on their work being initiated by customers whereas the other half largely rely on initiating work themselves through their outreach and marketing efforts. As can be seen in Table 5-4, few contractors (11%) rely solely on initiating all their jobs and only slightly more (20%) rely exclusively on customers to initiate all their jobs. The majority of contractors rely on some mix of initiating new projects and responding to customer inquiries for new jobs.

Table 5-4: Projects Initiated by Customers Versus Contractors (Contractors, n=45)

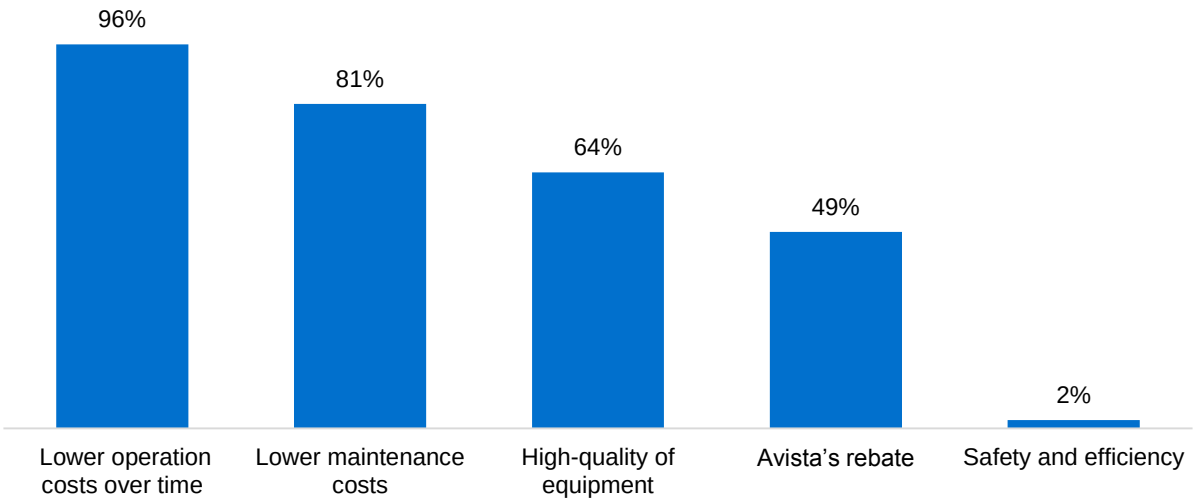
	Percent reporting	Cumulative Percent
100% of commercial jobs initiated by customer	20%	20%
51 - 99% of commercial jobs initiated by customer	25%	44%
50% of commercial jobs initiated by customer	11%	56%
1 - 49% of commercial jobs initiated by customer	33%	89%
0% of commercial jobs initiated by customer	11%	100%

Respondents reported they rarely discourage customers from applying for rebates. Only seven of the 47 commercial contractors noted discouraging customers and five of the seven stated that the wait for efficient equipment was too long and one respondent indicated that even with the rebate, the project was too expensive. One other respondent did not recall if they had ever discouraged a customer.

Contractors play a notable or primary role in preparing project applications. Of the 47 respondents 43% reported completing the application in concert with the customer and 49% reported doing all or almost all the application on behalf of the customer. The remaining 8% reported the customer completed the application.

Focusing on operations and maintenance issues is a key sales tactic when selling projects to customers (Figure 5-8). Of the five project benefits contractors noted, only one, the program rebate, did not pertain to O&M issues and the rebate was discussed by about half of respondents.

Figure 5-8: Project Benefits Contractors Talk About During Sales Process (n=47)



Of the 39 nonresidential contractors able to report how many options they provide to customers when selling a job, two-thirds (26) provide two or more options. Twenty-two of those 26 reported what distinguishes the options they offer with half (11) reporting efficiency, almost half reporting quality (10), about a third (7) reporting price, and less than 10% (2) reporting a difference in project scope.

5.3.3.1 Feedback from High Performing Contractors

To understand why certain contractors generate more Avista incented jobs than their peers, the evaluation team asked eight high performing nonresidential contractors to identify:

- Their firmographic characteristics
- Ways they interact with potential customers.
- Sales techniques they use to generate program participation.
- Suggestions for ways Avista could further engage contractors.

We begin by providing an overview of key characteristics of these respondents.

5.3.3.1.1 Overview of Nonresidential High Performing Contractor Respondents

Most of the nonresidential high performing contractors we interviewed represented contractors that have done lighting projects as either electrical contractors (4) or lighting specialists (2). The remaining respondents represented a food service equipment (1) supplier and an HVAC firm (1). Most (5) had experience doing projects that received Avista incentives for five or more years and most (7) had 10 or more employees and had one location in Avista territory (5) (Table 5-5).

Table 5-5: Key Characteristics of High Performing Contractor Respondents

Respondent ID	Contractor Type	Time Doing Rebates	Number of Avista Jobs in Last Year	Number of Employees	Number of locations
27	Electric (lighting)	3 years	Less than 100	20 to 99	1
97	Electric (lighting)	5 or more years	100 to 500	10 to 19	1
112	Electric (lighting)	2 years	Less than 100	10 to 19	More than 1
268	Electric (lighting)	5 or more years	100 to 500	20 to 99	More than 1
68	Lighting	2 years	Less than 100	1 to 9	1
306	Lighting	5 or more years	100 to 500	20 to 99	More than 1
217	Food service	5 or more years	Less than 100	20 to 99	1
95	HVAC	5 or more years	Less than 100	20 to 99	1

5.3.3.1.2 Ways they Interact with Potential Customers

Contractors did not identify one overriding reason for why customers contact them and in turn do upgrades. They reported customers do upgrades to improve performance or comfort of their existing systems (8), for energy savings (7) and due to failing or failed equipment (7) (Table 5-6).

Furthermore, high performing contractors reported getting large portions of their program participant customers from their past customers – people they did maintenance, service, or other work for in the past. On average, more than two-thirds (68%) of projects came from customers they worked for in the past compared to about 30%, on average, from referrals from other customers or contractors. (Table 5-6).

Table 5-6: Summary of Ways High Performers Interact with Customers

Respondent		Outreach Efforts			Why Customers do Projects		
Resp. ID	Contractor Type	Percent of Projects Completed by Past Customers	Buy ads	Percent of Jobs from Referrals	Improve Perf./ Comfort	Emerg. Replace.	Energy Savings
27	Electric (lighting)	75%	✓	50%	✓	✓	✓
97	Electric (lighting)	75%	✓	40%	✓	✓	✓
112	Electric (lighting)	70%		15%	✓	✓	✓
268	Electric (lighting)	80%		80%	✓	✓	✓
68	Lighting	30%		8%			✓
306	Lighting	80%		15%	✓	✓	✓
217	Food service	40%	✓	20%	✓	✓	
95	HVAC	90%	✓	10%	✓	✓	✓
Average or Count - Total		**68%**	**4**	**30%**	**8**	**7**	**7**

As noted in Table 5-6, half (4) of the high performing nonresidential contractors reported purchasing some type of advertisement and these respondents use multiple forms of advertising. Specifically:

- Three reported having a website and all three indicated using online advertising to drive potential customers to their website. Two of these three specified using Facebook for their ads.
- One purchased a phonebook advertisement.
- One used direct mail.
- One partnered with their key manufacturer they represent, Carrier, to advertise in the local paper.
- One indicated sponsoring a local golf tournament and buying ads at a local little league ball field. However, this contractor who does some residential work, reported that these ads are largely focused at the residential market.

Contractors interact with the program processes more than customers. Contractors reported completing program paperwork for customers in all cases suggesting that contractors are the primary mechanism for submitting applications and interacting with Avista.

5.3.3.1.3 Techniques Used to Generate Program Participation

All eight contractors reported using a sales pitch or technique to convince potential customers to complete Avista rebated projects. Specifically:

- All contractors use particular characteristics of efficient equipment in their communications with potential customers.
    - All focus on the long-term energy savings of the efficient equipment and three of these respondents also focus on the short payback associated with some measures. For example, the food service equipment respondent stated that energy efficient fryers typically pay for themselves within six months of purchase.
    - All use the Avista incentives in their bidding.
    - Two noted non-energy benefits of using efficient equipment including improved operations and maintenance costs, and safety.

The majority of contractors reported they are the key source of information about the Avista program. On average, contractors reported they bring up incentives to customers about three-quarters of the time and customers ask about incentives about one-quarter of the time. Of the eight contractors, two electrical contractors, reported customers ask about incentives more than half the time.

Most nonresidential high performing contractors (7) mention specific equipment to their potential customers when promoting Avista incentives. Five contractors that do lighting work focus on LEDs (4) and parking lot lights (2). The HVAC contractor focuses on electric to natural gas boiler incentives and the food service respondent focuses on fryers and dishwashers.

Five of the eight contractors use maintenance or service calls to generate future work. They do routine maintenance or service for customers who in turn become program participants when it is time to upgrade their lighting (4) or HVAC equipment (1). One electrical contractor noted that while they are on site, doing a lighting project, they will also seek out opportunities to look at the age and condition of VFDs or motors at the customer site.

All contractors noted that some customers have concerns about some efficient equipment and that they work with customers to allay those concerns.

- Six mentioned customers concern about equipment reliability or durability and four of the six describe the warranty of the new equipment to help dispel the concern.
- Three lighting contractors noted that customers are concerned with qualities of the lighting. All contractors reported customers are concerned with the lighting color and one contractor allays that concern by providing customers with sample lights they can test before upgrading a whole space. Another contractor stated some customers are concerned that new lighting will not have dimming features.
- Two contractors reported customers express concerns with the cost of the new equipment. One contractor allays these concerns by providing a list of references (past

customers) so the potential customer can verify that the equipment will be worth the cost. The other contractor focuses on the payback analysis and focuses on the reduced maintenance costs that accompany more efficient and new lighting.

Most contractors (7) reported encouraging customers to consider upgrades other than what they had initially contemplated. For example, two electrical contractors will do formal upgrade plans for customers that spell out the order of doing certain projects over time and the savings associated with doing various upgrades. One contractor noted pointing out old equipment that may be at the end of its useful life and another electrical contractor will point out to customers with multiple sites that they can do similar projects at other sites.

Respondents provided a couple of insights about why they do more Avista projects than their peers. Three respondents suggested they provide additional value or insights about energy efficient equipment and incentives that other firms do not provide. For example, one of these respondents reported using rebates to "beat" internet sellers of equipment that may not be as tuned into the available incentives. They also educate their customers about Energy Star rebated equipment. Two respondents reported that their firm's focus on providing incented lighting products and services which led to them being high performers. They implied that other firms that provide a broader spectrum of services may not focus as much on incented work. The remaining respondents reported generic qualities about their business such as being a well-established firm with extensive industry experience. It was unclear how that trait led to more Avista projects and the evaluation team assumes that there are other well-established firms that have done few Avista projects.

All nonresidential high performing contractors stated program incentives influence their sales and in certain cases drive considerable work for their business.

- Four contractors specified that Avista's rebate programs are instrumental to the success of their business. As noted in the preceding paragraph, two of these contractor's business models rely on providing incented equipment and they do not provide a broad spectrum of services. One of these two contractors reported that if the incentives ceased, their firm would be out of business. The other two contractors implied that incentives allow them to sell considerably more than they could without the program. One of these contractors stated their firm sold 80% more services due to incentives and the other stated that despite the lower costs of LEDs over the last few years, it is the incentives that make the payback amenable to most of their participating customers.
- Three contractors reported that the program has been a considerable portion of their work depending on the incentives available. For example, two respondents reported doing many incented projects in 2016 and far fewer in in 2017 because incentives were lower and T5 upgrades require a new ballast in 2017 which was not a requirement in 2016.
- Two other contractors indicated the incentives provide a noticeable lift in their sales, estimating that their sales increase by 10% to 20% because of the program.

5.3.3.1.4 Suggestions for Ways Avista Could Further Engage Contractors

High performing contractors were largely appreciative of Avista's processes and staff, but they did offer a few ways to improve the program. All respondents indicated interacting with Avista staff at some point and all reported they were largely satisfied with these interactions. One reported that Avista could use more staff to be available for project verification appointments, implying that it can be difficult to schedule these appointments. Other suggestions included:

- Increase lighting incentives (4). Four specified they would like larger incentives for T8 and T12 replacement projects and one would also like to see three other measures added to list of qualified equipment. 1) pin style CFL to LED replacements, 2) LED can replacement fixtures and, 3) T5 fixture replacements (as opposed to the T5 lamp rebates).
- Improving the website (1). This respondent experienced difficult with the site locking up when looking up qualifying equipment.
- Improve turnaround time on site-specific and VFD/motor project application reviews (1).
- Adding incentives for air-conditioning equipment for residential and commercial buildings (1).
- Have Avista conduct more outreach to businesses to alert them about the program (1).
- Provide incentives for VFDs and motors not related to HVAC (1).
- Increase visibility for participating contractors by providing some type of co-branding opportunity with Avista (1).

5.4 Program Experience

This section summarizes how nonresidential participants and contractors experience the program. It begins with a review of key aspects of participant involvement in the program and moves into participant and contractor program satisfaction and concludes with a section about contractor's perspective on rebates and participant's concerns about their experience.

5.4.1 Participant Involvement

Of the 127 respondents that received an incentive, the majority (56%) reported they or their colleagues completed the information needed to apply for the incentives versus 34% that reported their contractor, with or without their assistance, completed the information. The remaining respondents reported Avista (3%), another party (5%), or they did not know (2%) who completed the information.

Of all respondents (214), close to two-thirds (63%) reported having contact with an Avista program representative and, indicative of the Small Business program approach, Small Business participants reported greater interaction with a program representative (74%) than other participants (55%).

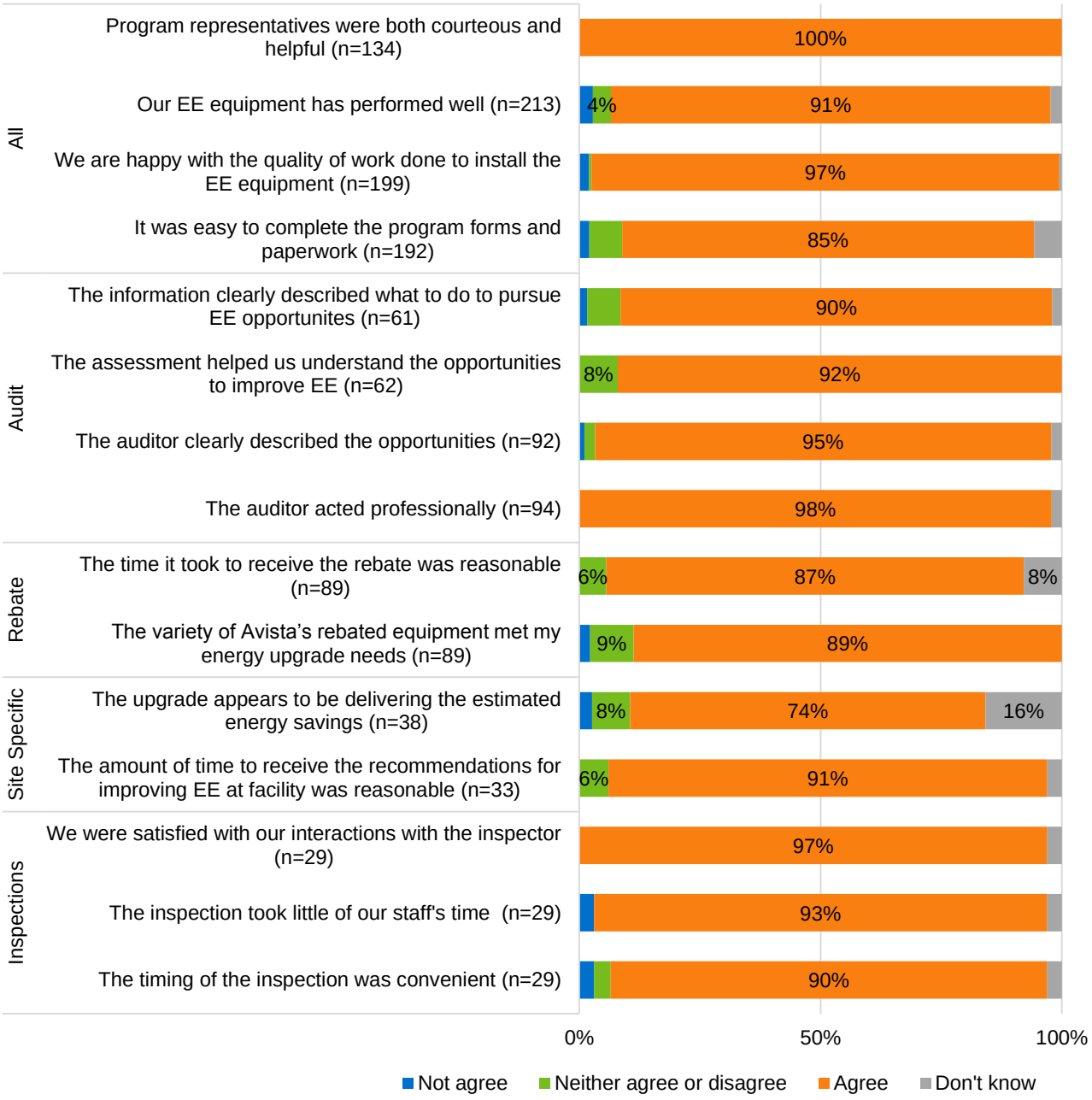
Interactions among the 71 Prescriptive, Site Specific, and Energy Smart Grocer participants were largely related to the application (48%), the rebate (48%), implementation (34%), and contractors (10%).

5.4.2 Participant Program Satisfaction

Across the programs and services Avista provides, participants reported high levels of satisfaction. Of 15 positive statements about the program experience, respondents reported very high levels of agreement with fourteen topics – that is more than 85% of respondents agreed with positive statements about their program experience (Figure 5-9). Specifically:

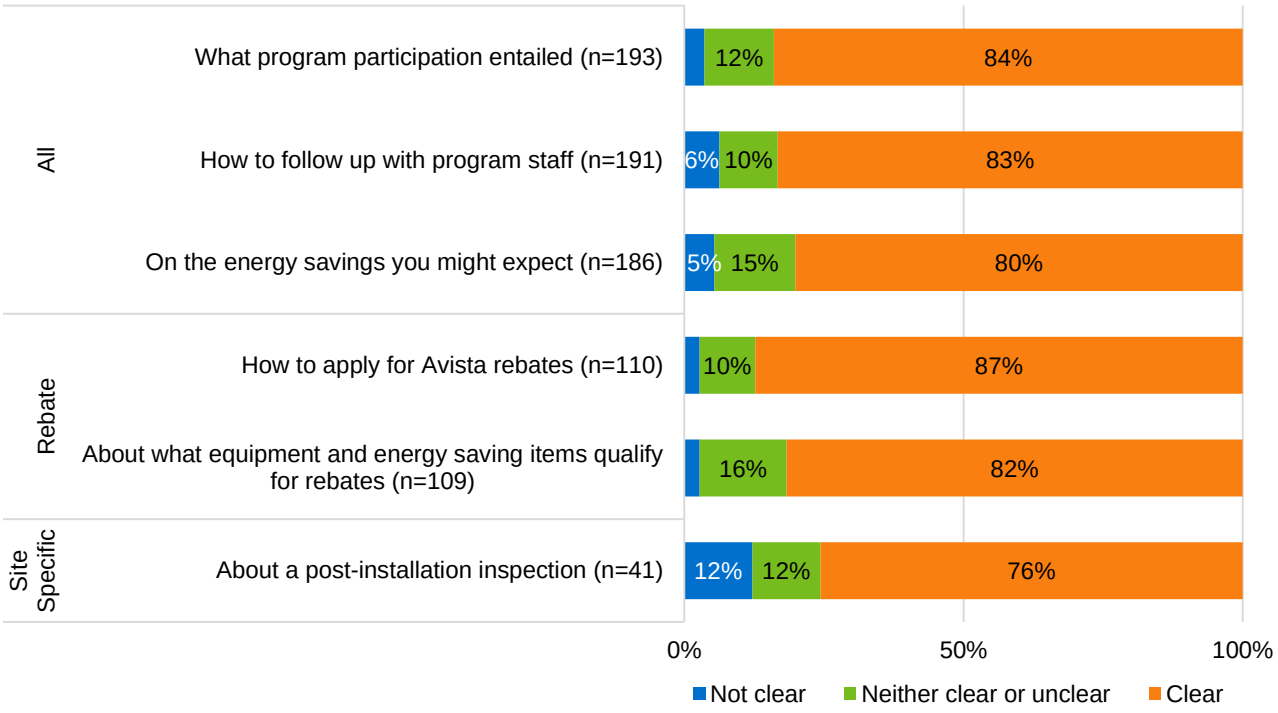
- **All:** Of the four statements relevant to all participants, respondents reported very high levels of satisfaction, particularly with the courteousness and helpfulness of program representatives.
- **Audit:** Audit respondents indicated high satisfaction with the professionalism of the auditor and the clarity of the opportunities described by the auditor. Among those audit respondents familiar with the audit findings the large majority indicated the assessment clearly described what they needed to do and helped them understand how they can improve the efficiency of their facility.
- **Rebate:** Among rebate recipients, most agreed the program provided a reasonable variety of efficient equipment and that the time to receive their rebate was reasonable.
- **Site Specific:** Among Site Specific participants, most agreed that the time to receive their energy efficient recommendations was reasonable. Fewer respondents (74%) agreed that their upgrade was delivering the estimated energy savings. Respondents received the survey within three months of completing their project and may not have had enough data to know if their project delivered the estimated savings.
- **Inspections:** Participants that received inspections post installation largely agreed that the experience was minimally disruptive to their staff and satisfied with their interactions with the inspector.

Figure 5-9: Participant Satisfaction



Respondents largely reported that program information was clear with at least four of five respondents reporting that information about how to apply, what participation entailed, how to reach staff, what equipment was eligible, and anticipated energy savings were clear. Less than 80% of Site Specific respondents considered information about the post installation inspection unclear and a notable minority (12%) indicated this information was unclear (Figure 5-10). However, as noted in Figure 5-9, respondents were largely satisfied with their inspection experience suggesting that any unclear information may have been offset by their other experiences with the inspection specifically and the program more generally.

Figure 5-10: Clarity of Program Information (Contractors)

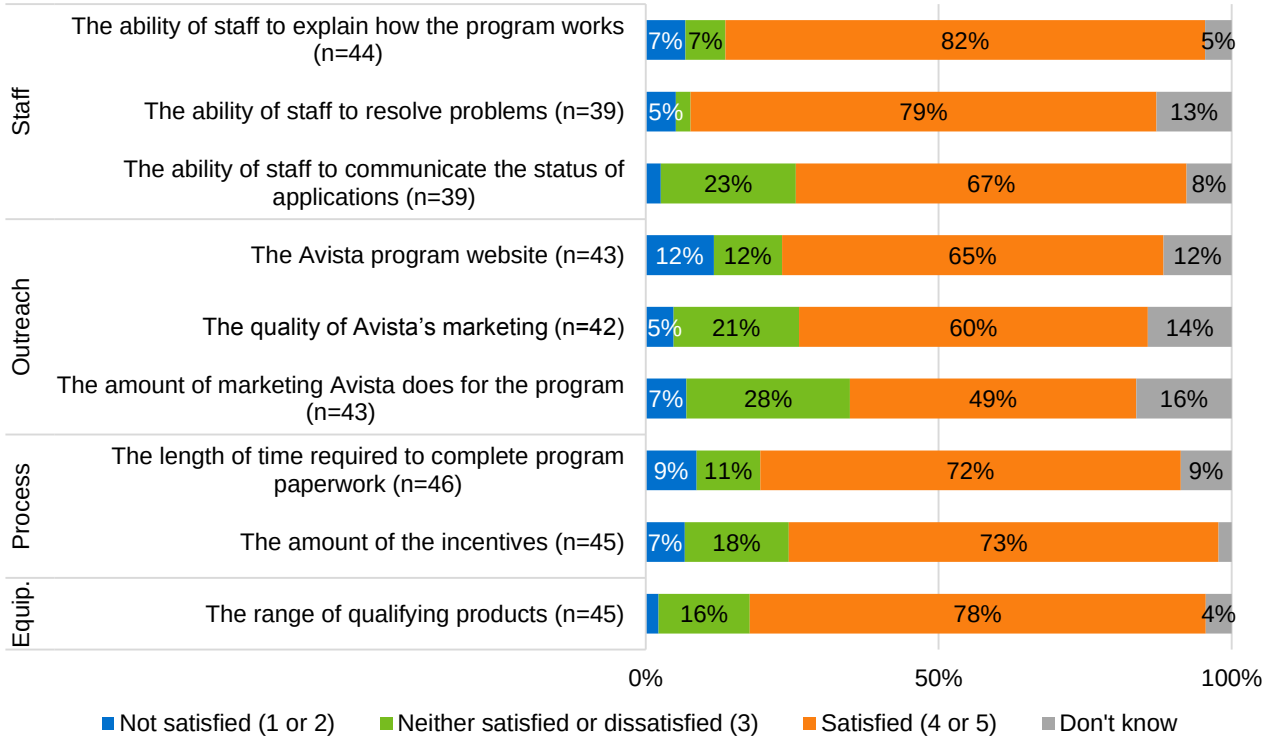


Another indication of high participant satisfaction is that audit recipients often reported following the audit recommendations and installing recommended equipment. Almost three-quarters of participants that received an audit and were familiar with the audit findings, through the Small Business program or another program, indicated they implemented all recommended upgrades (31%), some upgrades (32%), or planned to implement (10%) the upgrades. These participants reported they were most likely to install lighting measures (82%) with far fewer expecting to install aerators (6), HVAC (6), shell (3), food service equipment (3), VFDs (1), refrigeration (2) or power strips (1). These respondents reported that cost and time were the key barriers to actually installing these measures.

5.4.3 Contractor Program Satisfaction

Commercial contractors are largely satisfied with their interactions with Avista and appear not to know much about Avista's marketing efforts. Of the nine program elements asked about, only one, the program website, had more than 10% of respondents indicate dissatisfaction. Furthermore, the relatively large percentages of respondents reporting they did not know about some elements, particularly the outreach and marketing elements, suggests they were unaware of that element as opposed to not being able to provide a score (Figure 5-11).

Figure 5-11: Nonresidential Contractors Satisfaction with…



5.4.4 Participant Concerns

The majority of participants (81%) had no concerns with participating in the program and a small subset (19%) did express concerns but ultimately did choose to participate, suggesting someone or something allayed their concerns. Concerns mentioned were:

- Incentives would not be enough to cover enough of the project cost (5% of all participants)
- They would need to devote too much time to the process (4%)
- It would be hard to get approval from superiors in their organization (2%)
- The process of participating would be difficult to navigate (2%)
- Savings would not materialize (2%)
- Other unspecified concerns (6%)

5.5 Opportunities for Increasing Program Participation

To understand what market actors see as potential opportunities for increasing program participation, the evaluation team asked contractors about the best ways to reach them with information about programs and asked nonparticipants about their upgrade plans and how Avista could assist with those upgrades.

5.5.1 Ways to Increase Contractor Outreach

About one-third (22) of the nonresidential contractors provided suggestions for improving the measures provided through the program. More than half (13) of those contractors reported lighting measures, followed by two that reported HVAC measures. The other suggestion was to add a new construction suite of measures (1).

Contractors reported about the best ways to reach them. Online methods were most effective and far fewer respondents reported mail would be an effective method and even fewer respondents reported other methods (Table 5-7).

Table 5-7: Good Ways to Reach Nonresidential Contractors (n=47)

	Count	Percent
Via online	42	89%
By US mail separate from bill insert	11	23%
By US mail via bill insert	9	19%
At a webinar	6	13%
At a workshop, seminar, or classroom event	5	11%
By phone	4	9%
At a community event	2	4%
Other, please specify:	2	4%

5.5.2 Nonparticipant's Recent and Planned Upgrades

To assess possible opportunities for the program to reach nonparticipants, the evaluation team asked nonparticipants about recent building upgrades and future plans for upgrades.

A total of 41 of the 65 (63%) surveyed nonparticipants reported that they had upgraded equipment or building features in the past two years (n = 32) or that they planned to do so in the next two years (n = 27). An additional 6 respondents said they were not sure whether or not they would upgrade equipment, while about half of the respondents (n = 32) said they do not plan upgrades in the next two years. Of those with past or planned upgrades, a little more than half were for lighting or lighting controls, with HVAC representing the next most common equipment type (Table 5-8).

Table 5-8: Equipment Replacements or Upgrades Made by Nonparticipants in Past Two Years or Planned for Next Two Years (Count and Percent of Total)

Equipment or Upgrade	Upgraded (*n* = 32)		Plan to Upgrade (*n* = 27)		Upgraded and/or Plan to Upgrade (*n* = 41)	
Lighting or lighting controls	14	44%	17	63%	21	51%
Heating, cooling, HVAC	7	22%	4	15%	11	27%
Insulation (ceiling, attic, or wall)	4	13%	2	7%	6	15%
Water heating	3	9%	3	11%	5	12%
Motors or motor controls	3	9%	1	4%	3	7%
Water-saving items	2	6%	0	0%	2	5%
Appliances	2	6%	1	4%	3	7%
Refrigeration or freezing	1	3%	1	4%	2	5%
Data Center or IT equipment	0	0%	1	4%	1	2%
Other	5	16%	4	15%	7	17%

Of the 32 nonparticipants that reported recent equipment or building upgrades, 13 (41%) said they selected an energy efficient version, while over half (56%) were unsure if their equipment upgrade exceeded efficiency codes and standards.[8] A larger proportion of nonparticipants planning future equipment upgrades — 19 of 27, or 70% — affirmed that they are considering using systems that exceed standard efficiency. The remaining 8 nonparticipants (30%) said they were unsure what equipment they would select.

Respondents rated the influence of various factors on their decision to carry out energy efficient upgrades and/or on their plans to do so. Reducing O&M costs were most commonly cited as being influential, and Avista marketing was least influential. Nonparticipants rated other elements — contractor recommendations, achieving a green image, increasing comfort, and increasing productivity — as moderately influential on their equipment selection decisions (Table 5-9).

[8] Four respondents reported that they received financial incentives from utilities or government agencies for their upgrades – three, for lighting or lighting controls and one, for unknown equipment.

Table 5-9: Factors Influencing Nonparticipants' Recent or Planned Purchase of Energy Efficient Upgrades

Equipment or Upgrade	Count of Respondents Rating Each Factor as Influential [a]					
	Increasing comfort	Reducing O&M costs	Increasing product-ivity	Achieving a "green" image	Avista Marketing	Contractor or vendor
Recent upgrades (n=32)						
Lighting/lighting controls (*n* = 4)	1	3	1	2	1	3
Non-lighting (n = 10)	5	8	6	4	3	5
Planned upgrades (*n* = 27)						
Any planned upgrade (*n* = 19)	12	16	14	10	5	20 [b]

[a] "Influential" is defined here as a rating of 4 or 5 on a 5-point scale, from "no influence" to a "great influence."

[b] Unit of analysis is the number of future equipment upgrades, so 19 respondents are planning 20 upgrades.

Of the 19 nonparticipants that reported plans for energy efficiency upgrades in the next two years, thirteen reported it was likely their organization would apply for Avista rebates, five were not sure whether it was likely, and one reported it was not at all likely.[9] Of the six respondents that indicated they were unlikely to apply for Avista rebates, four specified:

- Three suggested that the incentives would not be enough to overcome the cost of efficient equipment.
- One stated difficulties getting approval from corporate decision makers

Of the fourteen nonparticipants who did not do efficiency upgrades as part of their past equipment replacements five specified why they did not choose an efficient option.

- They lacked capital (two mentions)
- They were unaware of higher-efficiency options (two mentions),
- They followed their contractor's recommendations (1 mention).

5.5.3 Opportunities to Add Efficient Motors

There is ample opportunity to increase awareness about efficiency opportunities available to customers, particularly nonparticipants, related to HVAC systems, and VFDs.

[9] "Likely to apply" = a score of 4 or 5 on a scale where 1 equaled not at all likely to participate and 5 equaled very likely to participate.

- Very few nonparticipants (18%) indicated ever considering upgrading the efficiency of their HVAC system.
- Very few nonparticipants (13%) reported ever talking to a contractor or Avista representative about VFDs.
- The majority of nonparticipants currently do not use or are unsure if their commercial buildings use VFDs in their HVAC systems. Of those respondents who reported having a rooftop, unitary, or another type of HVAC system, about one-tenth (12%) reported their equipment uses a VFD.
- Many nonparticipants report low likelihood of adding VFDs to their existing systems. Seventy percent of nonparticipants were unlikely to install a VFD in their HVAC system.

5.6 Freeridership and Spillover

This section summarizes results about freeridership and spillover. Freeridership represents an estimate of the energy savings that the program participants would have achieved without the program's assistance, and spillover is what additional energy saving actions occurred outside the program but as a result of program influence. For a discussion of the methods used to calculate freeridership and spillover values, see the 2016-2017 impact report discussion about net-to-gross calculations. Additionally, the impact report covers how freeridership and spillover rates affect savings.

This section discusses freeridership first and spillover second.

5.6.1 Freeridership

The evaluation team found a survey programming error related to the nonresidential freeridership battery of questions in the participant survey. To accommodate for that error, the evaluation team investigated using responses from the 2014-2015 biennium to impute some of the missing 2016-2017 data. However, after beginning this approach it became clear to the team that results would not be accurate. Instead, the evaluation team, in concert with Avista staff, decided to use all 2014-15 freeridership numbers for calculating net-to-gross savings reported in the impact reports. For the process evaluation, this means the team could not report a change in nonresidential freeridership from the 2014 and 2015 biennium to the 2016 and 2017 biennium.

5.6.2 Participant Spillover

Participant spillover occurs when program participants elect to conduct energy saving activities outside of the program as a result of program influence. Because the actions took place outside of the program, the program has no mechanism to capture these actions other than during customer surveys. The analysis below shows how many participants reported they took a spillover action. For an analysis and discussion of what effect these actions had on savings, see the applicable impact evaluation reports.

Of the 214 participants in the sample, 21 reported they were at least somewhat influenced by the program to undertake an energy efficiency project that did not receive a rebate.[10] The Energy Smart Grocer program had the highest percentage of participants reporting a spillover action and Food Service participants had zero respondents reporting a spillover action (Table 5-10). The 21 participants represented 25 program projects so there were a few instances where a spillover participant was associated with more than one program. It is unclear which program sparked the spillover action so the evaluation team associated the action with each program. The percentage of respondents reporting a spillover action is similar to the percentage of respondents reporting a spillover action in the prior 2014 and 2015 process evaluation report.

Table 5-10: Number of Participants Reporting a Spillover Action

Program	Total Projects and Participants in Sample	Participants Who Did Spillover Project	Percent of Participants Who Did Spillover Project
Prescriptive Lighting	51	7	14%
Prescriptive Other	24	4	17%
Site Specific	40	6	15%
Energy Smart Grocer	10	2	20%
Small Business	122	6	5%
Food Service	23	0	0%
Total Participants	**214**	**21**	**10%**
Total Projects	**270**	**25**	**9%**

.

[10] To be considered a spillover respondent, participants reported a score of three or higher on a scale where 1 was not at all influential and 5 was extremely influential.

6 Residential Process Results

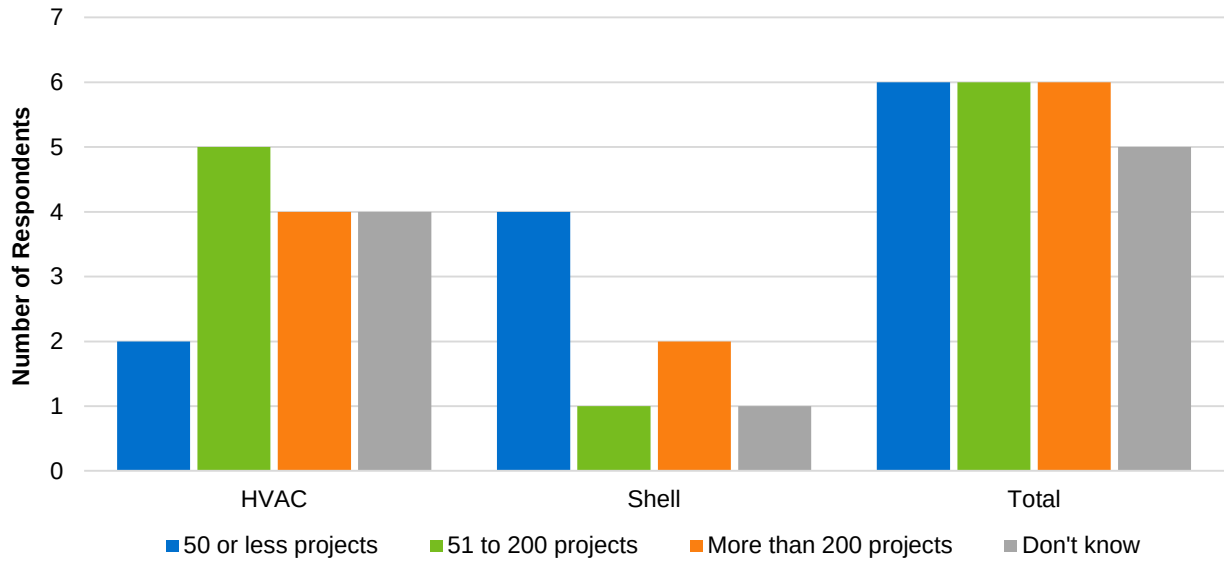
6.1 Program Delivery

This section presents results from the contractor survey and Avista staff interviews related to the residential rebate programs that were included in the process evaluation activities (i.e., Shell, HVAC, and Fuel Efficiency). Contractors were surveyed about their interactions with Avista program staff, their satisfaction with Avista's residential rebate programs, their sales history, and their recommendations for future program opportunities. Avista staff reported on interactions with contractors and future program opportunities.

6.1.1 Contractors Interaction with Avista and Program Awareness

All surveyed residential contractors reported doing an Avista rebated project in the last year. Of the 18 contractors that could report on how many Avista rebated projects they completed in the last year, a third reported less than 50, a third reported 51 to 200, and a third reported more than 200 projects. HVAC contractors reported doing more Avista rebated projects than Shell contractors
(Figure 6-1).[11]

Figure 6-1: Contractors' Estimate of Avista-Rebated Projects (*n*=23)



[11] We did not explicitly interview contractors that completed Fuel Efficiency projects. However, many of the HVAC contractors likely completed Fuel Efficiency projects as they represented almost one in three (29%) of all HVAC participants.

Surveyed contractors reported being aware and familiar with at least some Avista programs for many years. Almost three-quarters of residential contractors (17 of 23) reported completing projects that received Avista rebates for at least the past five years. Five more reported completing Avista- projects for three years or less and one was not sure how long their firm had done Avista projects.

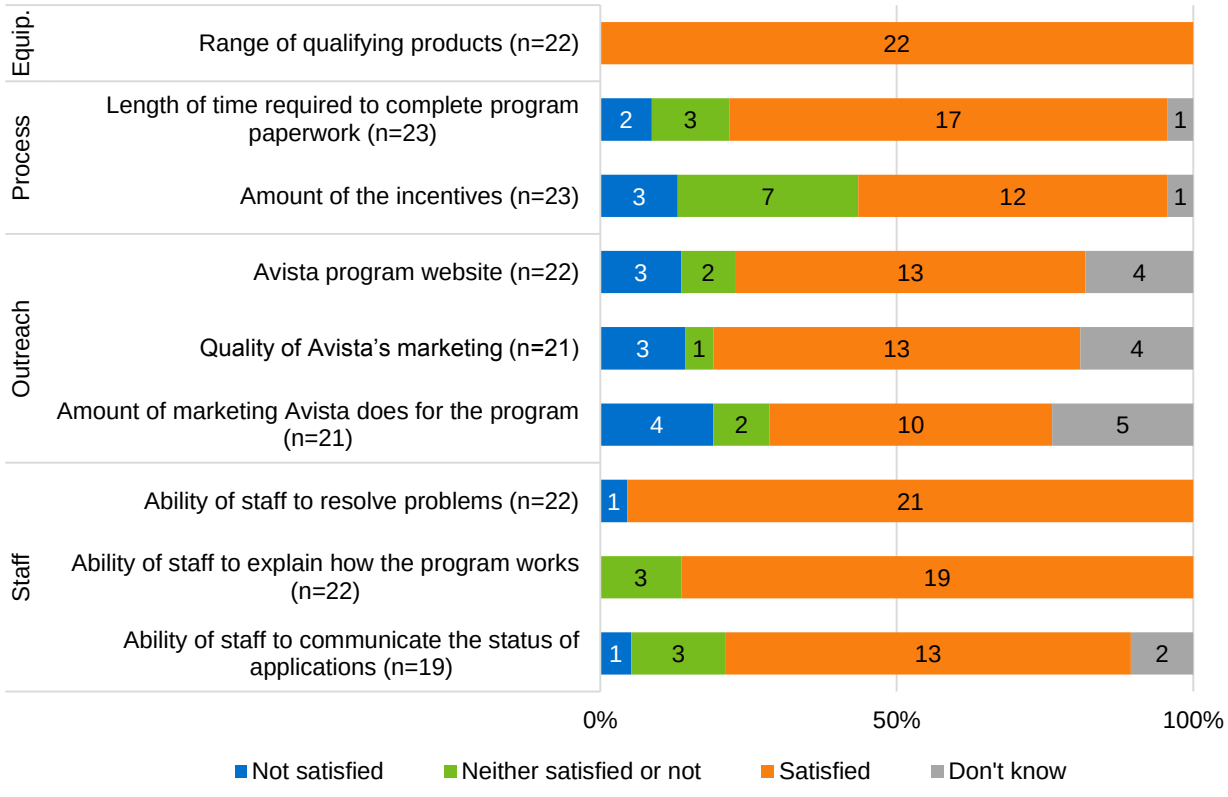
The interviewed high performing contractors reported similar levels of awareness and experience with Avista programs. The key difference was the scale of experience with Avista programs. High performing residential contractors tended to complete many more projects with five of the high performers suggesting they completed more than 500 Avista projects per year.

Avista projects constituted a considerable portion of all contractor respondent's work. HVAC contractors reported, on average, that 60% of their work received Avista incentives and shell contractors reported, on average, that 57% of their work received Avista incentives.

6.1.2 Contractors' Program Satisfaction

Surveyed contractors reported their satisfaction with nine elements of the program across four different areas: 1) program processes; 2) their interactions with program staff; 3) program outreach; and 4) the equipment offered by the program (Figure 6-2).

Figure 6-2: Residential Contractors Satisfaction with Program Elements



Of the four general areas investigated, contractors reported high levels of satisfaction with the eligible equipment list and program staff . Contractors reported the lowest satisfaction with the amount of incentives and a notable minority of contractors were dissatisfied or did not know about the program's outreach efforts. Specific mentions of dissatisfaction by respondents included:

- 10 respondents noted wanting higher rebate levels without specifying how much of an increase in rebate they wanted.
- Six respondents reported the program could increase advertisements about the program opportunities to customers.
- Five respondents reported dissatisfaction with the amount of time it takes to complete program paperwork.
- Five contacts provided comments about improving the Avista website with three of them specifying that they have been halfway through inputting a project online and then get kicked off the site and have to re-enter their work.
- Three expressed dissatisfaction with how long it takes Avista staff to approve projects and one of these three stated Avista should hire additional program staff to help the existing staff in this area.

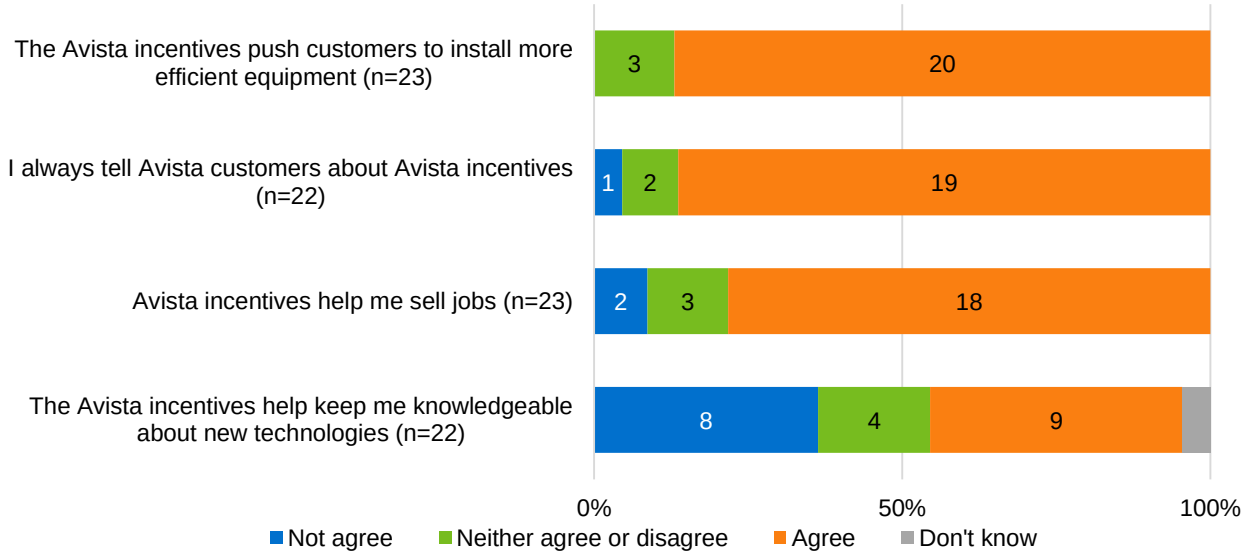
Consistent with the survey findings referenced above, interviews with the high performing contractors revealed that these contractors also are largely satisfied with their interactions with the program staff. Nine of the 13 high performing residential contractors reported direct interactions with staff and all reported high satisfaction with their interactions. One of these contractors indicated that their experience with staff recently improved because they now had a key contact at Avista to go to for specific questions where in previous experience they were unsure who to contact.

6.1.3 Contractors' Sales of Efficient Equipment

6.1.3.1 Feedback from Surveyed Contractors

Rebates are an effective sales tool for contractors. Most contractors agreed that they always tell customers about rebates and that the rebates help them sell more energy efficient equipment and services to their customers, a finding that is supported by Avista staff. However, a relatively low number of contractors agreed that the Avista rebates were helping them stay up-to-date about new technologies (Figure 6-3).

Figure 6-3: How Program Helps Residential Contractors

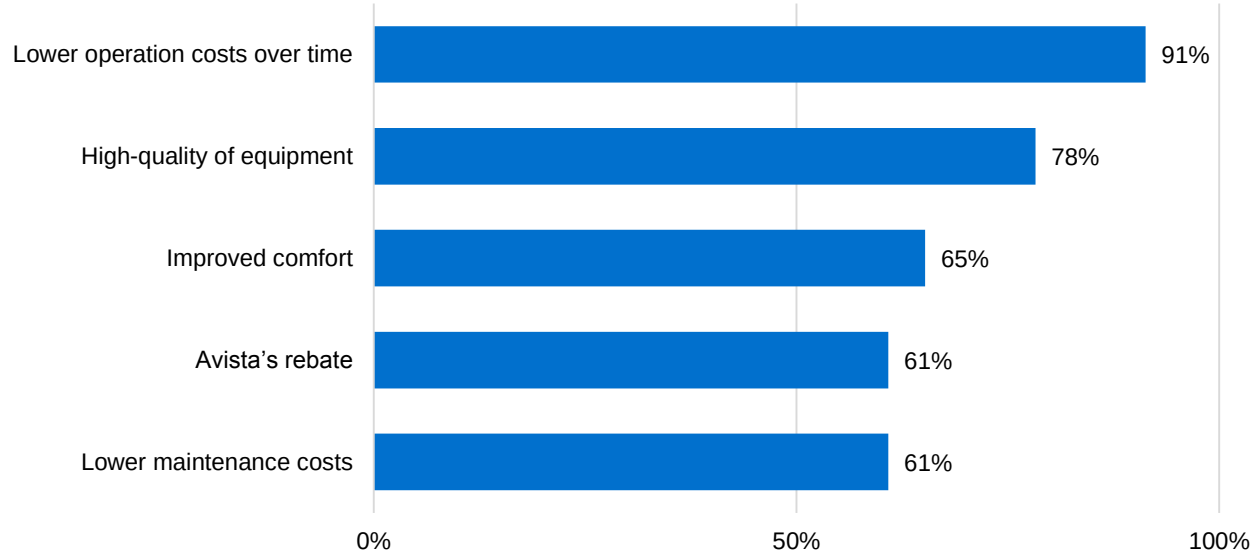


Almost all residential contractors offer customers more than one option when selling products or services. Of the 21 respondents that reported how many options they typically provide customers[12], 81% (17) offered two or more options, and 48% of contractors offered three or more options. The most commonly cited distinguishing characteristic among the options was energy efficiency (40%), followed by price (27%), and quality (27%). Only a few respondents (7%) reported using non-energy benefits, such as improved comfort, to differentiate the options they presented.

When discussing high-efficiency equipment options with customers, contractors tended to mention lower operating costs (91%) and higher quality (78%). Fewer contractors mention the improved comfort, rebate, or lower maintenance cost associated with the equipment (Figure 6-4).

[12] Two reported don't know

Figure 6-4: Benefits of Efficient Equipment Mentioned During Sales (Multiple Responses Allowed, n=23)



More than four-fifths (83%) of residential contractors reported that they prepare all or most of the rebate application (61%) or do the application in concert with the customer (22%). Thirteen percent stated the customer typically prepares the application and one respondent (4%) reported they prepare the rebate when they are doing a natural gas conversion project but not for other project types.

Two surveyed residential contractors reported occasionally discouraging their customers from purchasing highly efficient equipment. One discourages highly efficient furnaces if they are to be installed in unconditioned space because the furnace can freeze in extreme cold. Another contractor noted that efficient blower motors are too expensive.

6.1.3.2 Feedback from High Performing Contractors

To understand why certain contractors generate more Avista incented jobs than their peers, the team asked 13 high performing residential contractors to identify:

- Their firmographic characteristics
- Ways they interact with potential customers.
- Sales techniques they use to generate program participation.
- Suggestions for ways Avista could further engage contractors.

We begin by providing an overview of key characteristics of these respondents.

6.1.3.2.1 Overview of Residential High Performing Contractor Respondents

Most of the high performing contractors the team interviewed represented HVAC firms (9) and fewer (4) represented shell firms. Most (9) had experience doing projects that received Avista incentives for five or more years and most (10) had 10 or more employees (Table 6-1).

Table 6-1: Key Characteristics of High Performing Contractor Interviews

Respondent ID	Contractor Type	Time Doing Rebates	Number of Avista Jobs in Last Year	Number of Employees
110	HVAC	5 or more years	More than 500	20 to 99
155	HVAC	5 or more years	More than 500	20 to 99
35	HVAC	5 or more years	100 to 500	20 to 99
160	HVAC	5 or more years	Less than 100	10 to 19
187	HVAC	5 or more years	Less than 100	2 to 4
309	HVAC	5 or more years	More than 500	10 to 19
184	HVAC	3 years	100 to 500	20 to 99
261	HVAC	3 years	Less than 100	10 to 19
121	HVAC	2 years	100 to 500	2 to 4
13	Shell	5 or more years	More than 500	10 to 19
288	Shell	5 or more years	Not reported	20 to 99
295	Shell	5 or more years	More than 500	20 to 99
99	Shell	4 years	100 to 500	5 to 9

6.1.3.2.2 Ways Contractors Interact with Potential Customers

Contractors did not identify one overriding reason for why customers contact them and in turn do upgrades. They reported customers do upgrades to improve performance or comfort of their existing systems (11), for energy savings (10) and due to failing or failed equipment (8).

Furthermore, high performing contractors reported getting large portions of their program participant customers from their past customers – people they did maintenance, service, or other work for in the past - or from referrals. For example,

- On average, more than a third (36%) of projects came from customers they worked for in the past and more than two-fifths (42%) of projects came from referrals from other customers or from other contractors – that is other contractors or customers referred potential customers to their company. (Table 6-2).
- High performing HVAC contractors appear to rely on customers from their past work more than Shell contractors. HVAC contractors indicated, on average, that 41% of their

incented projects were completed by customers they worked for in the past compared to 26% for shell contractors.[13]

- Shell contractors appear to rely on referrals from others more than HVAC contractors. Shell contractors reported that, on average, 58% of projects came from referrals whereas HVAC contractors reported that, on average, 34% of projects came from referrals. One shell respondent specified that all their Avista projects come from referrals from other contractors and the remaining contractors suggested that their project customers were referrals from other customers.

Table 6-2: Summary of Ways High Performers Interact with Customers

Respondent		Sources of Customers			Why Customers do Projects		
ID	Contractor Type	Percent of Projects Completed by Past Customers	Buy ads	Percent of Jobs from Referrals	Emerg. Replace.	Energy Savings	Improve Perf./ Comfort
35	HVAC	20%	✓	20%	✓	✓	✓
121	HVAC	55%	✓	50%	✓	✓	✓
155	HVAC	60%	✓	10%	✓	✓	✓
160	HVAC	20%	✓	50%	✓	✓	✓
187	HVAC	25%	✓	25%	✓	✓	✓
261	HVAC	25%	✓	5%	✓	✓	✓
309	HVAC	70%	✓	30%	✓	✓	✓
110	HVAC	50%	✓	80%	✓		
184	HVAC/Builder	0%		0%	n/a	n/a	n/a
13	Shell	25%	✓	30%		✓	✓
99	Shell	30%	✓	70%			✓
288	Shell	0%		100%		✓	✓
295	Shell	50%	✓	30%		✓	✓
Average or Count -HVAC		**41%**	**7**	**34%**	**8**	**7**	**7**
Average or Count - Shell		**26%**	**3**	**58%**	**0**	**3**	**4**
Average or Count - Total		**36%**	**10**	**42%**	**8**	**10**	**11**

As noted in Table 6-2 the majority (11) of residential high performing contractors reported purchasing some type of advertisement and all but one of these respondents use multiple forms of advertising. Specifically:

- Six respondents reported their website supports their advertising efforts

[13] As noted in section below, five of nine HVAC contractors reported using their service/maintenance calls to drive Avista rebated projects.

- Five respondents use newspaper advertisements.
- Five respondents use radio advertisements.
- Five respondents use TV advertisements.
- Four advertise via social media or the Pandora music streaming service.
- Four use ads in phonebooks and one reported this was the most effective advertisement their company did.
- Four reported their company did community networking with three specifying they sponsor local sports or club teams and one noted that the company owner was active in the local Chamber of Commerce and Rotary club.
- Three respondents use direct mail. Two specified that they feature the Avista rebates in the mailer and one of these specified that one of the national manufacturers they represent financially supports their direct mail effort
- One respondent noted that their firm advertises at the local home show.
- One respondent uses movie theater ads and this respondent reported that the movie theater ads were the most effective advertising they completed.

Contractors interact with the program more than customers. They complete program paperwork for customers in all (11) or in half of their cases (2) suggesting that contractors are the primary mechanism for submitting applications and interacting with Avista.

6.1.3.2.3 Techniques Used to Generate Program Participation

All 13 contractors reported using a sales pitch or technique to convince potential customers to complete Avista rebated projects. Specifically:

- Twelve contractors use particular characteristics of efficient equipment in their communications with potential customers.
    - Eleven specify the long-term savings associated with efficient equipment – their energy bills will be less for years to come.
    - Seven specify non-energy benefits:
        - Improved comfort (5)
        - Quieter home (2)
        - Efficient equipment is higher quality (1)
        - Improved air quality (1)
        - Lower maintenance costs (1),
- Eleven contractors mention rebates as an enticement to complete an upgrade and contractors suggested that they are often the ones who inform customers about Avista incentives. On average, contractors estimated that they were the source of information for customers about Avista incentives 60% of the time and that customers asked about Avista incentives, without prompting from the contractor, about 40% of the time.

- Nine contractors, eight HVAC and one shell, reported focusing on specific efficient equipment in their sales practices. They specify:
    - Ductless heat pumps (6)
    - High efficiency furnaces (6). Two of these respondents specified they promote 95% AFUE furnaces.
    - Efficient water heaters (6). Three contractors specified water heater types with two reporting that they specify tankless water heaters and one specified heat pump water heaters.
    - Specific brands of efficient equipment (6).
        - Furnace brands: Goodman (3), Lennox (2), Trane (1), Bryant (1).
        - Ductless Heat Pumps brands: Daikin (1) and Fujitsu (1).
        - Water heater brand: A.O. Smith (1).
        - Shell products: Coeur d'Alene Windows (1), Therma True doors (1).
- Five of the nine HVAC contractors use maintenance or service calls to generate future work. They do routine maintenance or service for customers who in turn become program participants when it is time to upgrade their HVAC equipment.
- Two contractors explicitly stated they use the Line Excess Allowance Program (LEAP) in their sales pitch. A third contractor did not specify the LEAP program by name but did suggest that they use the program because they mentioned trying to convince customers to switch from electric to natural gas heat. A fourth HVAC contractor reported trying to work with Avista on targeting customers near natural gas lines that would be prime candidates for LEAP. This contractor was not able to attain that type of partnership with Avista.

Ten Contractors indicated that some customers have concerns with installing efficient equipment and that they work with customers to allay those concerns.

- Four noted customer concerns about the reliability or durability of new equipment and three contractors reported providing these customers with warranty information.
- Three reported customers are sometimes concerns about the cost of efficient equipment and they generally allay that concern by pointing out the long-term savings.
- Two reported customer concerns about the effectiveness of new equipment and these contractors did not specify how they allay these concerns.
- One contractor stated that some customers are concerned about the safety of switching to natural gas heat from electric. This respondent assures the customer that natural gas is safe and cheaper than electricity for heating. They did not provide details about how they convince customers about the safety of natural gas.
- One shell contractor noted that a few customers are concerned about the UV protection and the potential for condensation to develop in the house with new windows. The contractor discusses each product on a case-by-case basis with the customer and tells

customers that new windows will actually provide better UV protection and limit condensation better than old windows.

Most contractors (9) reported encouraging customers to consider upgrades other than what they had initially contemplated. For example, a contractor noted pointing out old equipment that may be at the end of its useful life and several other contractors suggested that a customer consider bundling projects – for instance doing air conditioning at the same time as a furnace replacement.

Respondents largely did not know why they do more Avista projects than their peers. Twelve surmised that they have extensive experience in the industry but did not provide any detail beyond that for why they generate more Avista projects than others.

Most residential high performing contractors (10) stated program rebates positively influence their sales and the LEAP program combined with efficiency efforts appears particularly important to a few contractors. Three of the contractors that reported the program influenced their sales, all HVAC contractors, noted that LEAP program was a crucial part of the influence. One of these contractors specified that in the last 12 months, their residential work was up $1 million or 40% from the prior year due to efficiency rebates and LEAP.

6.1.3.2.4 Suggestions for Ways Avista Could Further Engage Contractors

All high performing contractors praised Avista's processes and had few suggestions for ways to further engage contractors. Three respondents specified that they particularly liked Avista's online process for submitting an application and one appreciated having a "go-to" person at Avista to ask questions of.

Four high performers reported that Avista could do more to encourage residential efficiency projects by doing the following.

- Advertise more (2). One contractor specified more newspaper and radio advertisements and one of the contractors that uses the LEAP program reported that Avista needs to promote awareness of LEAP and, unrelated to advertising, improve response time for the LEAP participation. According to this respondent, there has been a three month wait between the time customers sign up for the program and the time their natural gas line is installed.
- Increase incentives (2)
- Add mini-split heat pumps and hybrid water heaters to the eligible measure list (1).[14]

[14] It was unclear to this respondent that these measures are eligible for incentives.

6.2 Customer Experience with Rebate Programs

6.2.1 Awareness and Familiarity with Avista Programs

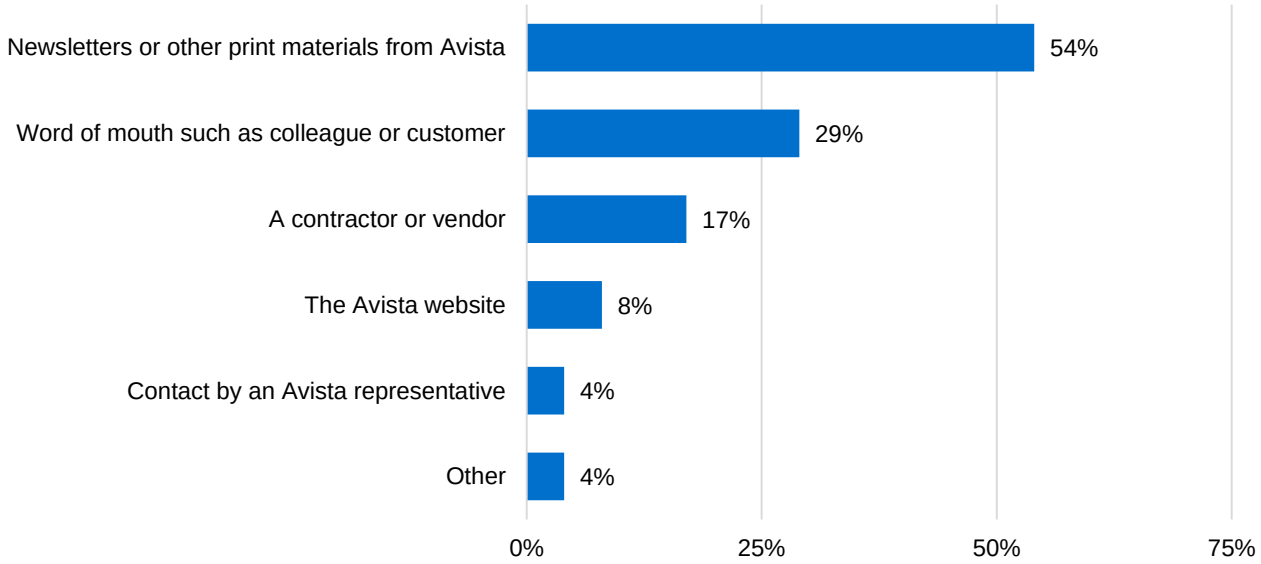
The evaluation team reviewed program-related marketing materials and responses from participant and nonparticipant surveys regarding awareness and familiarity with Avista's programs to determine whether residential customers are learning of Avista's offerings through the marketing channels used by Avista. Survey findings reveal contractors are the main channel through which participants hear of Avista's Fuel Efficiency, HVAC, and Shell residential rebates. Avista's print, online, or other marketing efforts also generate leads and interest into Fuel Efficiency, HVAC, and Shell programs.

Interviews with the Avista's marketing contact as well as the evaluation team's review of Avista's marketing documents show that Avista conducted the following marketing and outreach activities in 2016 and 2017:

- Outreach to HVAC associations;
- Print advertisements in local or regional trade publications;
- Television, radio, and online advertisements;
- Horizon and Alaska Airlines in-flight magazine advertisements;
- Partnerships with home builders and other specialty groups to promote efficiency; and
- Promotions via social media (Facebook and YouTube).

The source of program awareness among customers is consistent with Avista's marketing activities. Of the 24 residential nonparticipants who were aware of Avista incentives (34% of the sample), two-thirds (66%) reported learning about Avista's rebate programs through several channels Avista used for marketing and outreach (Figure 6-5). Please note that the nonparticipant sample is more representative of the Avista's residential customer population than participant sample because the nonparticipant sample is representative of Washington's and Idaho's urban and rural populations as well as those who rent and own their homes.

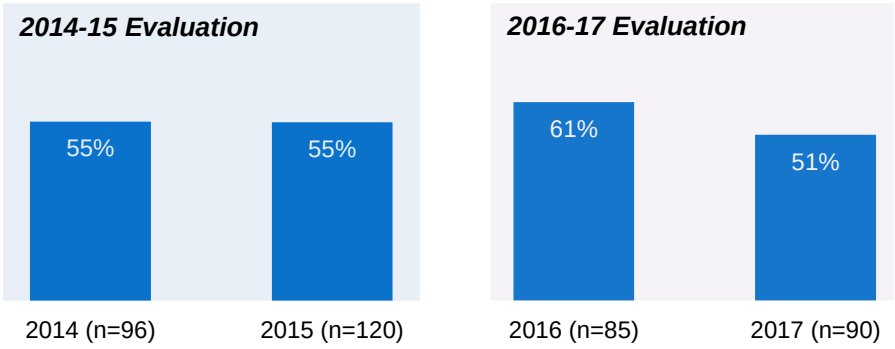
Figure 6-5: Source of Program Awareness (n=24; Nonparticipants)



Participants highlighted the importance of contractors in advertising Avista's programs. More than half (61% and 51% in 2016 and 2017, respectively) of surveyed Fuel Efficiency, HVAC, and Shell participants reported they heard of Avista rebates through a contractor. In both years, the contractor was the most commonly cited channel through which participants learned of Avista rebates. The importance of contractors in advertising Avista's programs was also found in the prior 2014-2015 process evaluation (Figure 6-6).

Note the percentage of those reporting they heard of Avista rebates through a contractor declined from 2016 to 2017. This decline was marginally significant (Z-test of proportions; p=.09). Also note there is not enough data to determine whether the importance of contractors in advertising Avista's programs is diminishing. The team would need data for 2018 and 2019 on this metric to assess whether there is a trend.

Figure 6-6: Percent Heard of the Rebate via Contractor (2014 - 2017 Fuel Efficiency, HVAC, and Shell Participants)



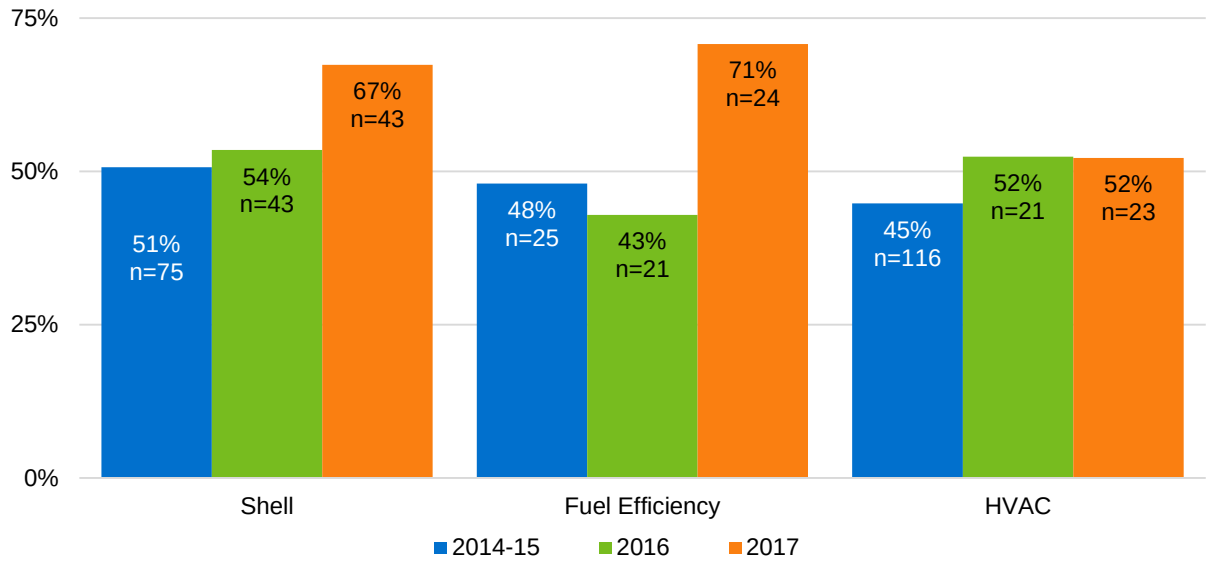
Also note, in the combined 2016 and 2017 sample, those who took part in the Fuel Efficiency program were more likely to hear of Avista rebates through word-of-mouth compared to HVAC and Shell participants (Chi-square test significant at p<.05; also see Table 6-3).

Table 6-3: Heard of the Rebate via Word-of-Mouth (Participants)

Group	Count	Percent
Fuel Efficiency (n=45)	15	33%
Shell (n=86)	16	19%
HVAC – natural gas (n=44)	3	7%

In 2017, Shell and Fuel Efficiency participants, compared to HVAC participants, were more familiar with other Avista energy efficiency rebates or rebates besides the one for the measure they installed. Awareness of other Avista energy efficiency rebates increased substantially in 2017 among Shell and Fuel Efficiency participants (Z-test of proportions between 2014-2015 and 2017 significant at p<.05; see Figure 6-7).

Figure 6-7: Percentage of Participants Familiar with Other Avista Rebates



Among the 24 nonparticipants (34% of the sample) that reported being familiar with Avista incentives, about one-quarter reported being familiar with the HVAC and window rebates (Table 6-4). About one-fifth reported being familiar with CFL and LED store discounts offered by Avista. Additionally, almost one-fifth could not say which rebate they knew about. Thus, overall, almost three-fourths of surveyed nonparticipants reported unawareness of specific offerings from Avista, suggesting Avista marketing efforts for specific programs are not reaching many customers.

Table 6-4: Nonparticipant Awareness of Avista Incentives (n=24; Multiple Responses Allowed)

Incentives Familiar With	Count	Percent
Rebates for high efficiency HVAC equipment	6	25%
Rebates for upgrading windows or storm windows	6	25%
CFL and LED discounts at the store	5	21%
Conversion of electric to gas furnace and/or water heaters	4	17%
Incentives for purchasing Energy Star Homes	2	8%
Rebates for high efficiency appliances	2	8%
Rebate for high efficiency and tankless water heaters	1	4%
Solar program	1	4%
Other	2	8%
Don't know	4	17%

Interest in receiving additional information on Avista's energy efficiency offerings is moderate among nonparticipants. About half of surveyed nonparticipants expressed interest in receiving information from Avista on programs, opportunities, or events on energy efficiency (Table 6-5).

Table 6-5: Additional Energy Saving Information Nonparticipants Would Like to Receive (n=70; Multiple Responses Allowed)

Information regarding…	Count	Percent
Energy efficiency programs	22	31%
Energy savings opportunities	34	49%
Workshops or events on energy efficiency	11	16%
Nothing	33	47%
Don't know/Refused	1	1%

About two-thirds of participants reported the following information from Avista would be helpful: information on energy-saving programs and opportunities (Table 6-6). It is unclear whether participants were saying they would like to know such information now or they would have liked to have known the information when they participated.

Table 6-6: Additional Energy Saving Information That Would Be Helpful Reported by Participants (n=175; Multiple Responses Allowed)

Information regarding…	Count	Percent
Energy efficiency programs	119	68%
Energy savings opportunities	121	69%
Workshops or events on energy efficiency	56	32%
Nothing	30	17%
Don't know/Refused	3	2%

Participants who noted certain energy efficiency information would be helpful and nonparticipants who expressed interest in additional information most commonly cited “mail” as a good channel through which Avista could send energy efficiency information to consumers (Table 6-7) – which suggests that direct mail approaches are good avenues to market programs. Additionally, nonparticipants were much more likely to cite “email” as good channel through which Avista could send energy efficiency information to consumers, compared to participants (Z-test of proportions significant at p<.05).

Table 6-7: Preferred Method of Receiving Information from Avista Reported by Participants and Nonparticipants (Multiple Responses Allowed)

TOP FOUR RESPONSES on what are good ways to get energy efficiency information from Avista	Participants (n=142)		Nonparticipants (n=36)	
	Count	Percent	Count	Percent
1. By US mail	89	62%	20	56%
By US mail via bill insert	79	56%	14	39%
By US mail separate from bill insert	49	35%	12	33%
2. By e-mail	54	38%	19	53%
3. Avista website	38	27%	1	3%
4. By phone	7	5%	4	11%

6.2.2 Motivation and Barriers to Participation

6.2.2.1 Participant Motivation

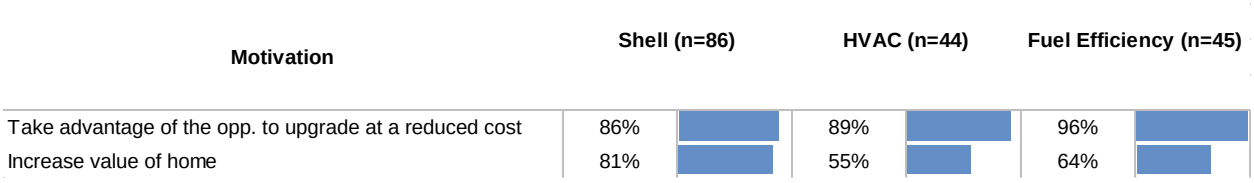
Participants reported increased home comfort, saving energy/lower bills, and taking advantage of the opportunity to upgrade at reduced cost as the top three motivations for participating in a rebate program, and they reported ease of participation as a close fourth (Table 6-8).

Table 6-8: Motivations for Participating in a Rebate Program (Participants, n=175, Multiple Responses Allowed)

Motivation	Percent
Increase comfort of home	94%
Save energy or lower your energy bills	91%
To take advantage of the opportunity for upgrades at reduced cost	89%
Seemed easy to use program	85%
Increase value of home	70%
To do your part to help the environment	67%
Contractor, builder, retailer, or vendor recommended	62%
Knew that any equipment and service Avista would offer a rebate for most reliable	59%
Shell only (n=86) - to reduce indoor moisture problems	49%
Had a good experience with another Avista program	30%
Other	5%

The participant motivations for completing efficient upgrades to their home did not vary significantly by program type, except in two instances. More Fuel Efficiency participants compared to HVAC and Shell participants noted wanting to take advantage of the opportunity to upgrade at a reduced cost as a reason for participating in a rebate program (Chi-square test, p<.05; see Figure 4-1). More Shell participants compared to HVAC and Fuel Efficiency participants noted increasing the value of their home as a reason for participating in a rebate program (Chi-square test, p<.05; see Figure 6-8).

Figure 6-8: Motivations for Participating in a Rebate Program, by Program (Participants; Multiple Responses Allowed)



6.2.2.2 Nonparticipant Motivation and Barriers

Most nonparticipants have not replaced their equipment in the past two years; however, of those that did, many opted for highly efficient upgrades. Twenty-three percent of surveyed nonparticipants reported completing an upgrade at their home in the past two years. Nonparticipants reported completing a variety of upgrades, including HVAC, water heating, windows, insulation, and appliances (Table 6-9). Twelve nonparticipants (75%) who completed an upgrade reported that at least one of the upgrades they have made in the past two years were installations of equipment labeled as ENERGY STAR certified or otherwise being highly energy efficient. Note aging or damaged equipment was the primary motivation for replacing or

upgrading equipment reported by those who did an upgrade, followed by remodeling the home (six and three mentions, respectively).

Table 6-9: Upgrades in the Past Two Years (Nonparticipants, n=70, Multiple Responses Allowed)

Past Upgrades	Count	Percent
Heating and/or cooling system, HVAC	6	9%
Water heating	5	7%
Windows	3	4%
Insulation (ceiling, attic, or wall)	3	4%
Appliances	3	4%
Roof	1	1%
Other	1	1%
Nothing	54	77%
Don't know	0	0%

Surveyed nonparticipants who did an upgrade rated Avista's marketing efforts as not particularly influential on their recent equipment selection decision-making. Sixteen nonparticipants reported making at least one upgrade to their home in the past two years. Thus, among these 16 respondents, there were 23 equipment upgrades reported. Avista marketing was rated as "very influential" in the equipment selection for 3 (13%) of the 23 upgrades reported among nonparticipants (a rating of 4 or 5 on a five-point scale, from "no influence" to "great influence"). These three upgrades were replacements of HVAC systems or added insulation. Avista marketing was rated as having no influence (a rating of 1 on a five-point scale) for over 80% (19) of efficient upgrades reported.

Similarly, most nonparticipants rated the recommendation from their contractor as having no influence on their equipment selection decisions: three-fourths (74%) of nonparticipants reporting recent upgrades gave a rating of 1 or 2 on a five-point influence scale. About one-tenth (13%) rated their contractor's recommendation as highly influential on their equipment selection decision-making. Note readers should interpret these particular findings with caution. Survey data included no information on how many of these respondents used a contractor or interacted with a vendor or a retailer sales staff when purchasing the equipment. It also lacked data on other key factors that can influence customer decision-making processes, such as price or size or capacity of the equipment.

A minority of nonparticipants also reported plans to make efficient upgrades to their homes within the next two years: about one-quarter (29%) reported future upgrade plans (Table 6-10). Among those respondents planning an upgrade, window replacement was most commonly mentioned (six mentions), followed by insulation (four mentions). Overall, two-thirds of nonparticipants reported they do not have any plans for equipment upgrades in the next two

years. Statistical testing revealed respondents residing in an urban area were more likely to report no plans for upgrades (74% reported “nothing”) than rural respondents (44% reported “nothing”).

Table 6-10: Future Upgrades Planned (Nonparticipants, n=70, Multiple Responses Allowed)

Upgrades Planned	Count	Percent
Windows	6	9%
Insulation (ceiling, attic, or wall)	4	6%
Water heating	3	4%
Heating and/or cooling system, HVAC	3	4%
Appliances	3	4%
Roof	3	4%
Energy efficient lighting	3	4%
Storm Windows	1	1%
Other	4	6%
Nothing	47	67%
Don’t know	4	6%

Many nonparticipants did not report any barriers to making energy efficiency improvements in their household; although those that did reported upfront costs as most burdensome. Over half (59%) of nonparticipants reported facing at least one barrier to saving energy in their home. The most frequently cited barrier was the up-front cost of efficient equipment or repairs (Table 6-11), which indicates an importance of offering an incentive to customers for home improvement projects. Nonparticipants also reported that their older homes are built inadequately for energy efficiency or contain outdated, inefficient equipment. This reasoning may suggest a lack of awareness or knowledge about energy efficiency upgrade opportunities, rather than an actual barrier in making energy efficiency improvements.

Table 6-11: Barriers to Making Energy Efficiency Improvements (Nonparticipants; n=41; Multiple Responses Allowed)

Barriers	Count	Percent
Up-front cost or payback period of equipment or repairs	10	24%
Not much we can do because of inefficient equipment or the way home was built	8	20%
Other occupants of home / Occupant behavior	5	12%
Don't know what to do	4	10%
Difficult to change behavior (stop a habit)	4	10%
Renter - unable to make improvements	3	7%
Uncertainty about how much energy and money an improvement can save	3	7%
Uncertainty whether an energy-saving improvement can improve comfort in my home	3	7%
Other	6	15%
Don't know	2	5%

6.2.3 Program Experience

6.2.3.1 Program Satisfaction

Surveyed participants were satisfied with the Avista program experience and the measure installed. The majority of surveyed participants reported being either "very" or "completely" satisfied with their Avista rebate program (Figure 6-9). Nearly all (93% in 2016 and 90% in 2017) reported they are "very likely" to recommend Avista rebates to others. The majority (80% in 2016 and 73% in 2017) rated the measure quality as "excellent."

The evaluation team also asked participants to explain their overall program satisfaction rating. Top five responses included:

- Application process was easy, no hassles (64 mentions)
- Because of the rebate - happy it was offered, helped with the cost, etc. (29 mentions)
- Fast, timely, and prompt service (29 mentions)
- Good customer service (eight mentions)
- Happy with the equipment installed (seven mentions)

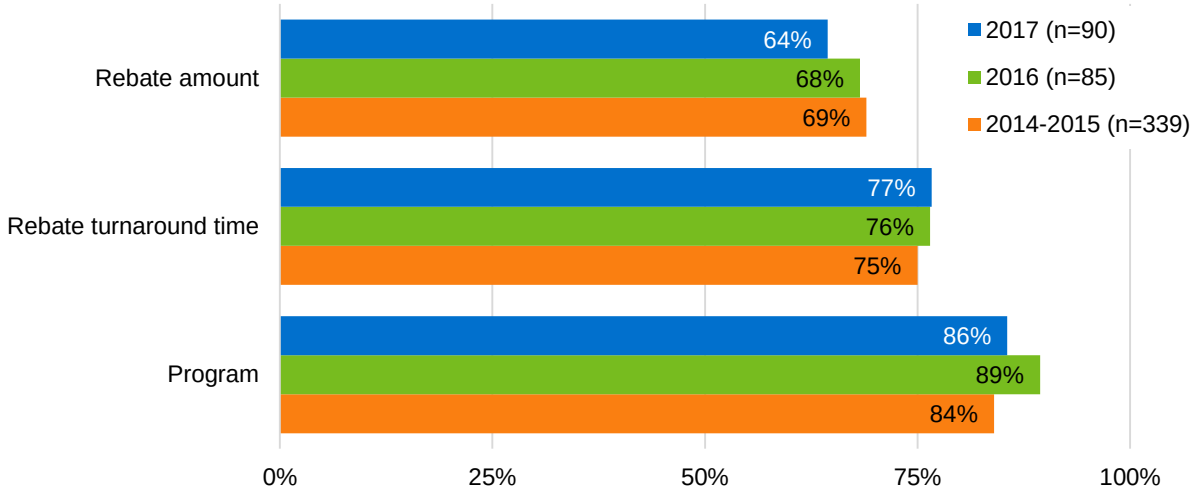
The program also met participants' expectations in the following ways:

- 91% noted the program is easy to use (that is, 91% rated the statement "the program was easy to use" as "4" or "5" on a 1-5 scale, where 1 meant "not at all" and 5 meant "fully".)
- 91% noted their home is more comfortable after the upgrade (that is, 91% rated the statement "your home is more comfortable" as "4" or "5" on a same 5-pt. scale referenced above.)

- 94% of Shell participants noted their moisture problems were reduced (that is, 94% rated the statement “moisture problems are reduced” as “4” or “5” on a same 5-pt. scale.)

Although participants were generally satisfied with the program, they were not satisfied with every element of the program. Participants were the least satisfied with the rebate amount (Figure 6-9). Note program evaluations commonly find lower satisfaction levels for rebate amount than for other program features. Additionally, respondents expressing some dissatisfaction with the program (those who gave a satisfaction rating of “1”, “2”, or “3” on a 5-pt. scale) most commonly said the application process was not smooth (8 mentions) or they would have liked a higher rebate (7 mentions).

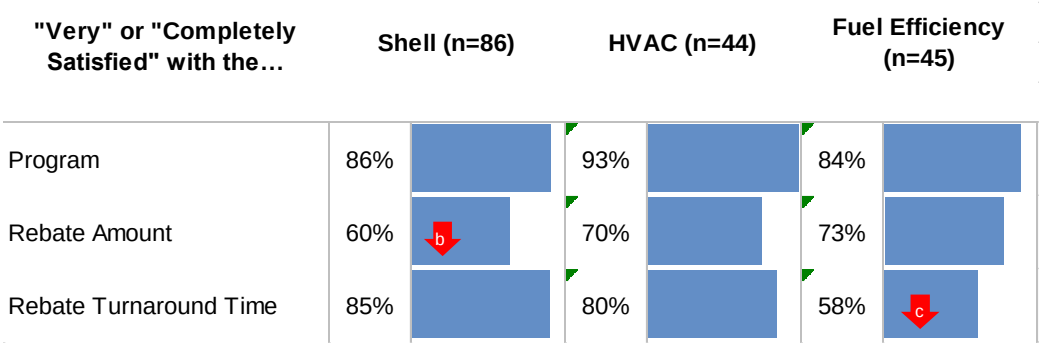
Figure 6-9: Percent Reporting Ratings of 4 or 5 (Very and Completely Satisfied)



Also, a notable minority (18%) rated the statement “the installed equipment has been trouble free” as “1”, “2” or “3” on a 1-5 scale, where 1 meant “not at all” and 5 meant “fully.”

Figure 6-10 shows that Shell participants were generally less satisfied with the program rebate amount than HVAC and Fuel Efficiency participants. The team also noticed that Fuel Efficiency participants were less likely to report being either “very” or “completely” satisfied with the rebate turnaround time than HVAC and Shell participants. However, the statistical significance with respect to satisfaction ratings on rebate turnaround time disappears when “don’t know” responses are excluded from the analysis.

Figure 6-10: Satisfaction Rating, by Program (2016 and 2017 Participants) [a]



[a] Percent reporting "Very" or "Completely Satisfied" on a 5-pt. scale (not at all, slightly, moderately, very, and completely satisfied).
[b] Shell participants were significantly less likely to rate the rebate amount as "very" or "completely satisfied" compared to HVAC and Fuel Efficiency participants (Z-Test of Proportions at $p<0.05$).
[c] Fuel Efficiency participants were less likely to rate rebate turnaround time as "very" or "completely satisfied" (Z-Test of Proportions at $p<0.05$). However, this difference ceases to be statistically significant when "don't know" responses are excluded from the analysis. A notable percent (27%) of Fuel Efficiency participants stated "don't know" when asked this question.

Fifty-nine 2016 and 2017 respondents offered suggestions for improving the Avista rebate programs. They most commonly suggested that Avista should advertise rebate programs more to increase awareness of the offerings among customers (Table 6-12).

Table 6-12: Top Three Suggestions for Improving the Rebate Program (Participants; n=59; Multiple Responses Allowed) [a]

Suggestion – Top three responses	Count	Percent
More program outreach and advertising, including advertising other rebates	22	38%
Higher rebate	8	14%
Communication improvements/Confusion with program requirements	5	8%

[a] We excluded blank responses (n=38) and respondents who said program is working well with no need for improvement (n=78).

6.2.3.2 Participant's Satisfaction with Contractors

Residential participants are satisfied with their contractors. In 2016 and 2017, nearly all (96%) Fuel Efficiency participants reported using a contractor, compared to 90% of Shell and 71% of HVAC participants.[15] The majority (89%) of these participants reported being satisfied with their contractors (rating of "Very" or "Completely Satisfied" on a 5-point scale). Nearly all (93%) of

[15] A notable minority (13 of 44) of HVAC participants noted they did not use a contractor to install the rebated measure. Most (9 of 13) of those who did not use a contractor installed a smart thermostat.

those who used a contractor in 2016 and 2017 reported they would recommend their contractor to others.

6.2.3.3 Clarity of the Program Information

A majority (more than half) of participants reported that program-related information (e.g., website or rebate form) was clear on how to apply for a rebate, which equipment qualified for a rebate, expected energy savings of program eligible equipment, and who to contact if any issues arose (Figure 6-11). Figure 6-11 also shows that for Shell program participants, the program materials were less clear about the quality assurance (QA) process. Note only Shell participants were asked about QA process or inspections.

Significantly fewer Fuel Efficiency participants reported information on how to apply for Avista rebates was clear in program collateral compared to other program participants (62% said it was clear, compared to 87% for HVAC and 81% for Shell; Z-test of proportions significant at $p<0.05$). Additionally, the evaluation team found that the clarity of information regarding which equipment or items qualified for rebates was less clear for Fuel Efficiency and Shell participants than for HVAC program participants (69% and 70% said it was clear, compared to 87% for HVAC participants; Z-test of proportions significant at $p<0.05$).

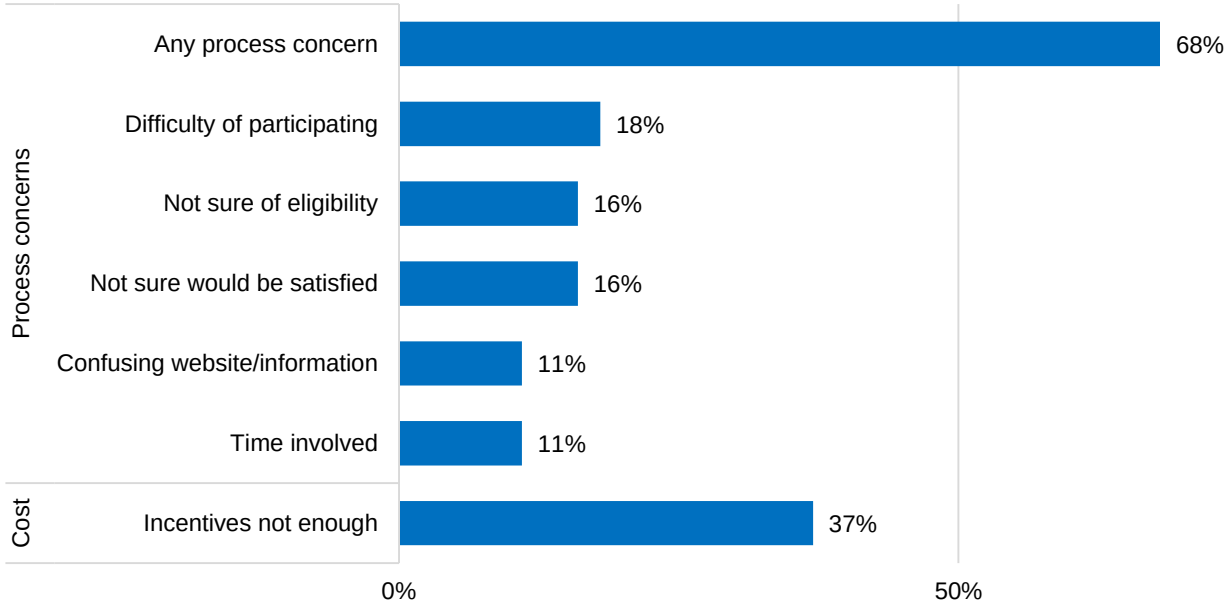
Figure 6-11: Clarity of the Program Information (Participants) [a]

Percent reporting program information was clear on (rating of "4" or "5"):	Fuel Efficiency	HVAC	Shell
How to apply for Avista rebates (FF n=37, HVAC n=38, Shell n=80) [b]	62%	87%	81%
Which eq./items qualify for rebates (FF n=42, HVAC n=38, Shell n=80) [c]	69%	87%	70%
Expected energy savings from eligible eq./items (FF n=42, HVAC n=39, Shell n=73)	71%	62%	60%
How to follow up with program staff if questions (FF n=40, HVAC n=40, Shell n=74)	70%	73%	65%
That there may be an inspection prior to receiving a rebate (Shell only; n=69)	n/a	n/a	30%

[a] Percent saying “4” or “5” on a 5-pt scale where 1 meant "the information was not at all clear" 5 meant "the information was very clear." The evaluation team excluded “not applicable” responses from this analysis.
[b] Difference between the programs are statistically significant (Z-test of proportions, $p<0.05$).
[c] Difference between the programs are statistically significant (Z-test of proportions, $p<0.05$).

Participants also reported concerns with the process of participating, things like eligibility concerns and the time it would take to participate, more than concerns about cost. A little less than a quarter of respondents (n=38) noted concerns about participating, even after reviewing program information. Of these, more than two-thirds (68%) expressed some type of concern with the process of participating and about half that percentage (37%) expressed concerns with the incentives not being high enough (Figure 6-12).

Figure 6-12: Participant Concerns (n=38)



6.2.3.4 Repeat Participation

Customers were or are considering participating again. More than one-half (58%) of 2016 and 2017 surveyed participants reported being familiar with other energy efficiency rebates aside from the one they received. Among those familiar with other Avista rebates, 28% reported having received another Avista rebate. A little less than half (46%) of those familiar with other Avista rebates noted they are “very likely” to apply for another rebate in the next two years.

6.2.4 Market for Insulation and Siding (Shell Measures)

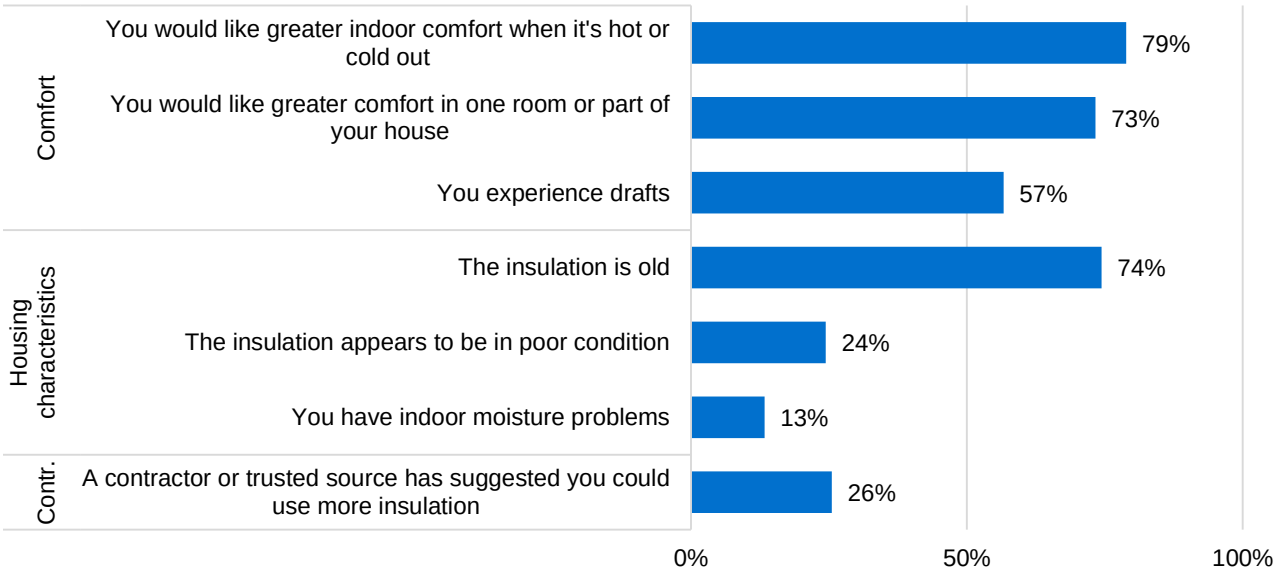
To assess residential participants awareness of the benefits of various shell measures, homeowner respondents (n=171) told the evaluation team about their use of shell measures and their awareness about the potential energy savings associated with shell measures. Results indicate that rebate participants are a potentially promising target market for shell measures.

There are many homeowners, particularly in Washington, who could benefit from an assessment of their insulation quality and potentially receive additional insulation. More than three-fifths of respondents indicated their home could use additional insulation (45%) or were uncertain about the quality of the insulation in their home (16%). Washington respondents were

significantly more likely to report having poor insulation than Idaho respondents ($p<.05$). Of those that reported adding insulation to their home (n=64), more than half (55%) indicated that the insulation in their home may still be inadequate.

Many participants indicate their insulation is inadequate because they experience comfort issues in their home. Of the 104 respondents suggesting their home could benefit from additional insulation, 90 reported reasons why they thought their insulation was inadequate. Comfort issues appeared to be the most notable reason participants indicated their insulation was inadequate, followed by reasons related to housing characteristics, especially the age of the insulation, followed by receiving contractor recommendations (Figure 6-13).

Figure 6-13: Reported Reasons Insulation May be Inadequate (n=90)



The majority of participants reported awareness about the usefulness of a vapor barrier for preventing air flow, and a notable number of these participants indicated they will be undertaking a siding project in the next five years. More than three-fifths (62%) of participants reported they were aware that having a vapor barrier underneath siding limits the amount of air entering the home and two-thirds (66%) of these respondents reported confidence that vapor barriers could deliver savings and comfort. Among those considering replacing their siding in the next five years, almost three-quarters (71%) reported awareness about the utility of a vapor barrier.

Eleven percent of homeowner respondents reported familiarity with the term “deep retrofit” and about three-fifths (61%) indicated they were confident that receiving deep retrofit services would deliver energy bill savings consistent with a contractor estimate.

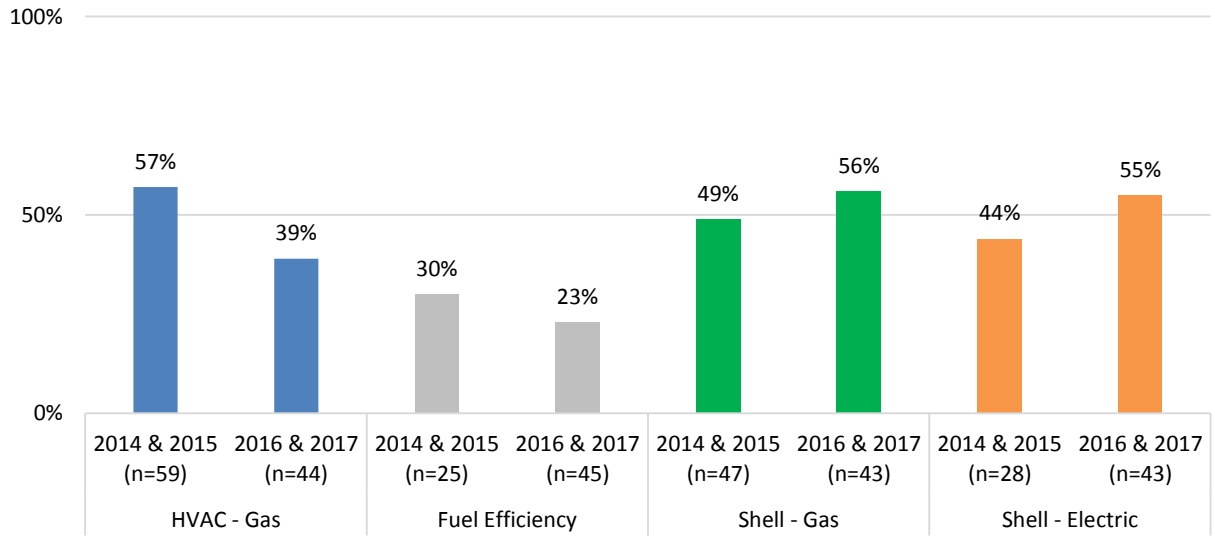
6.3 Freeridership and Spillover

This section summarizes results about freeridership and spillover, two key aspects of energy efficiency programs. Freeridership represents an estimate of the energy savings that the program participants would have achieved without the program's assistance, and spillover is what additional energy saving actions occurred outside the program but as a result of program influence. This section begins with a discussion of freeridership and concludes with a discussion of spillover. For a discussion of the methods used to calculate freeridership and spillover values, see the applicable 2016-2017 impact evaluation reports regarding net-to-gross calculations. Additionally, the impact evaluation report covers how freeridership and spillover rates effect savings.

6.3.1 Freeridership

In 2016 and 2017, the evaluation team examined freeridership for these residential programs: HVAC - Gas, Fuel Efficiency, Shell Gas and Shell Electric. To see how freeridership changed over time, the evaluation team plotted freeridership results for 2016 and 2017 next to results from the previous evaluation (2014-2015) (Figure 6-14). Data collection and computation freeridership approaches across the two biennium were the same so any differences in results are likely due to changes in the program or market.

Figure 6-14: Freeridership Over Time



The only statistically significant difference in freeridership between the two biennium was for HVAC-Gas. One possible explanation for the decline in freeridership for HVAC-Gas was the addition of heat pump measures in 2017. The team conjectures that the inclusion of air source and ductless heat pumps attracted new customers to the program and that the program spurred them to take an action to purchase efficient equipment.

All other differences in freeridership values between bienniums were not statistically significant indicating the difference in freeridership between biennium samples is due to random chance.

6.3.2 Participant Spillover

Participant spillover occurs when program participants elect to conduct energy saving activities outside of the program as a result of program influence. Because the actions took place outside of the program, the program has no mechanism to capture these actions other than during customer surveys. The analysis below shows how many participants reported they took a spillover action. For an analysis and discussion of what effect these actions had on savings, see the applicable impact evaluation reports.

Of the 175 participants in the sample, 16 reported they were at least somewhat influenced by the program to undertake an energy efficiency project that did not receive a rebate.[16] The Shell program had the highest percentage of participants reporting a spillover action and HVAC participants reported the fewest spillover actions (Table 6-13). The percentage of respondents reporting a spillover action is similar to the percentage of respondents reporting a spillover action in the prior 2014 and 2015 process evaluation report.

Table 6-13: Number of Participants Reporting a Spillover Action

Program	Total Projects and Participants in Sample	Participants Who Did Spillover Project	Percent of Participants Who Did Spillover Project
Shell	86	10	12%
Fuel Efficiency	45	4	9%
HVAC	44	2	5%
Total Participants	**175**	**16**	**9%**

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[16] To be considered a spillover respondent, participants reported a score of three or higher on a scale where 1 was not at all influential and 5 was extremely influential.

7 Special Studies

As part of the 2016-17 evaluation, the evaluation team proposed two studies outside of the process evaluation activities already discussed herein. The team describes the results of those studies here.

7.1 T-12 Special Study

The 2014-15 process evaluation activities demonstrated that T12s are still widely used in the marketplace despite the technological advances and lower costs associated with high efficiency fluorescent lighting and LEDs over the last few years. To understand if there are new strategies like improved messaging that could be helpful in encouraging T12 owners to upgrade to higher efficiency lighting, the evaluation team included questions about this topic in the nonresidential participant, nonparticipant, and contractor surveys.

Specifically, the team asked about customer's (participants and nonparticipants) awareness of T12s, the energy use of T12s compared to newer technologies, and about possible incentives and messaging that would encourage T12 replacement. Contractors told the team about approaches they use for convincing customers to replace T12s particularly since the lighting baseline changed in January 2013 lowering incentives for T12 replacement.

Additionally, a representative from the Small Business program implementation team briefly told the evaluation team about their experience encouraging customers to replace T12s via the pilot program they managed in early 2017. The pilot program involved providing 50 small businesses with TLEDs to replace their T12s.

This special study addresses three topics.

1. The pervasiveness of tube lighting in the market.
2. What barriers prevent customers from upgrading their T12s?
3. What approaches are most likely to convince customers to upgrade their T12s?

Each of these topics is described below.

7.1.1 Market for Tube Lighting in the Market

Nonresidential customers widely use fluorescent tube lighting and the majority of that lighting has not been replaced in the last five years suggesting many customers are using old inefficient lighting. About three-quarters of all customers (74%), both program participants and nonparticipants, reported having fluorescent tube lighting in their buildings. Of those with tube lighting about half (49%) reported upgrading their lighting in the last five years and another 10% reported upgrading their tube lighting five years or more ago.

Many nonresidential customers are unaware of what kind of lighting they have suggesting an opportunity to educate customers about the savings potential that accompanies new lighting technologies. Of those that upgraded their tube lighting in the past, a large portion (38%) did not know what kind of tube lighting was installed. Nonparticipants were significantly more likely to report not knowing was what installed (69%) compared to participants (30%) and of those that did know what was replaced, participants were more likely to report installing TLEDs (37%) than nonparticipants (8%) (Z-test, $p<.05$). Participants and nonparticipants reported installing T12s, T8s, and T5s in roughly equal proportions.

There continues to be opportunities to replace old inefficient tube lighting, particularly among small businesses. Among participants, Small Business respondents were more likely to report having tube lighting (81%) than other participants (66%) (Z-test, $p<.05$), however, other participants (59%) were more likely to report having upgraded their tube lighting in the last five years compared to Small Business participants (42%) (Z-test, $p<.05$). This suggests that there are still savings opportunities by upgrading tube lighting among all businesses, particularly among small businesses.

T12 replacement projects constitute close to a quarter, on average, of contractor project estimates and they are typically replacing T12s with TLEDs. On average, about 22% of the surveyed lighting contractor's project estimates involve T12 replacements. When those estimates turn into actual projects, eighty percent of all surveyed lighting contractors reported typically replacing T12s with TLEDs. The remaining twenty percent used high efficiency T8s (3), two used standard T8s (2), and T5s (1).

7.1.2 Overcoming Barriers that Prevent Customers from Upgrading T12s

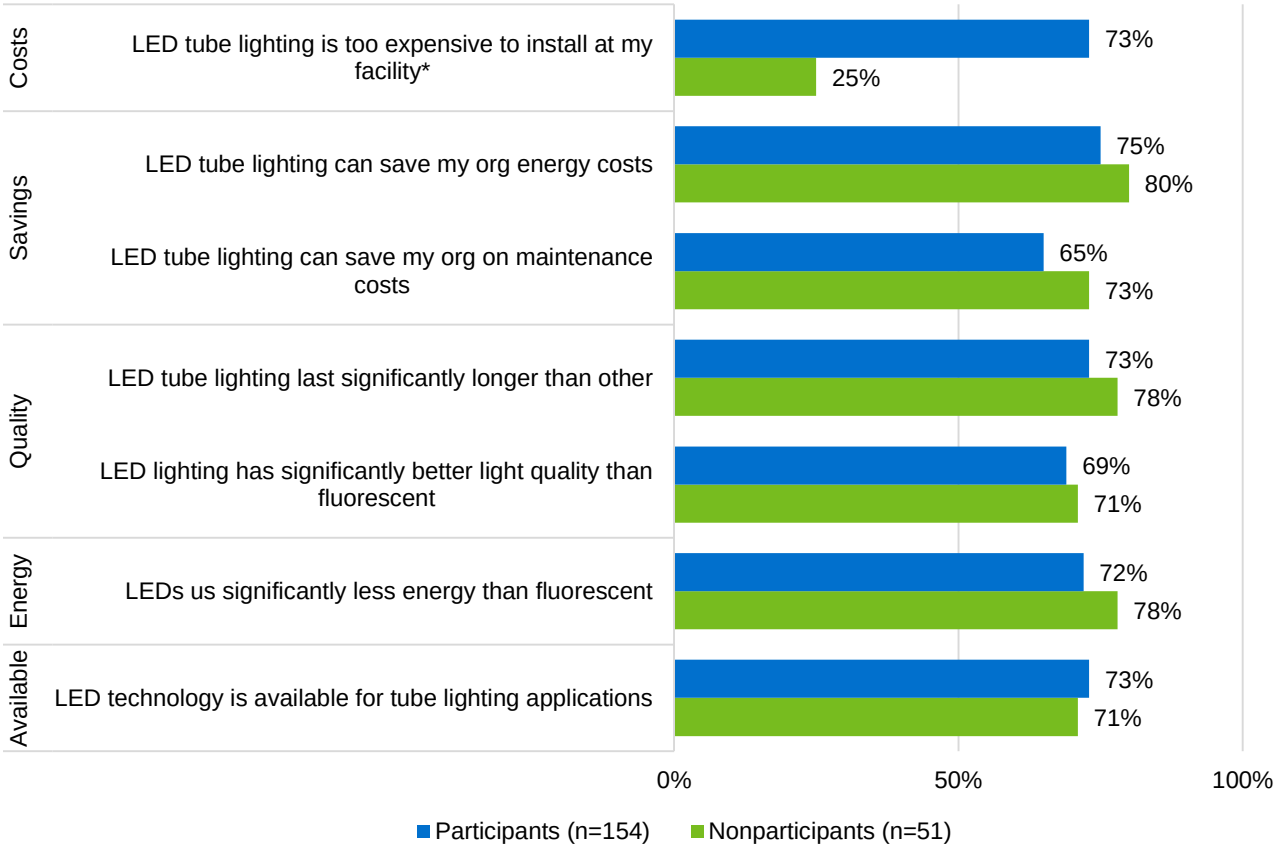
The majority of nonresidential customers with tube lighting have not been approached by contractors or Avista representatives about upgrading their lighting, indicating an opportunity to promote savings opportunities from lighting projects. Of customers with tube lighting, a little more than a third (37%) reported being approached by a contractor or Avista about upgrading their tube lighting in the last two years. About half this group reported contact from a lighting contractor (32%), electrician (11%), or general contractor (7%) and slightly less than half (46%) reported contact from an Avista representative. The remaining respondents (5%) did not know who approached them.

Participants reported interest in upgrading lighting in the next two years, but many participants did not report being approached by a contractor or program representative. Participants were far more likely to report being contacted (44%) than nonparticipants (18%), likely because their program participation likely included contact with a contractor or representative that may have brought up future work. Despite the relatively high percentage of participants reporting contact, more than half (56%) had not been approached indicating an opportunity to educate participants about lighting opportunities.

A subset of customers plans on making more than one set of lighting upgrades in a span of seven years. About two-fifths (42% or 87 respondents) of those with tube lighting reported they are considering replacing their tube lighting in the next two years and of those almost half (45%) reported making tube lighting upgrades in the last five years. When examined as a percent of all customers with tube lighting, 19% reported making upgrades in the last five years and plan to make upgrades in the next two years. This suggests that there is a notable number of customers aware of the benefits of new lighting technologies so much so that they are willing to make investments in lighting twice in a relatively short period of time.

Customers largely agree that LED tube lighting is available and superior to fluorescent lighting, with one exception. Customers generally agree that LEDs are available, they use less energy, are of higher quality, and will save them money. However, participants were more likely to report that LED tube lighting is too expensive to install compared to nonparticipants suggesting that at least a portion of the market is so concerned with the cost of an efficient upgrade, that they may not install the efficient upgrade (Figure 7-1).

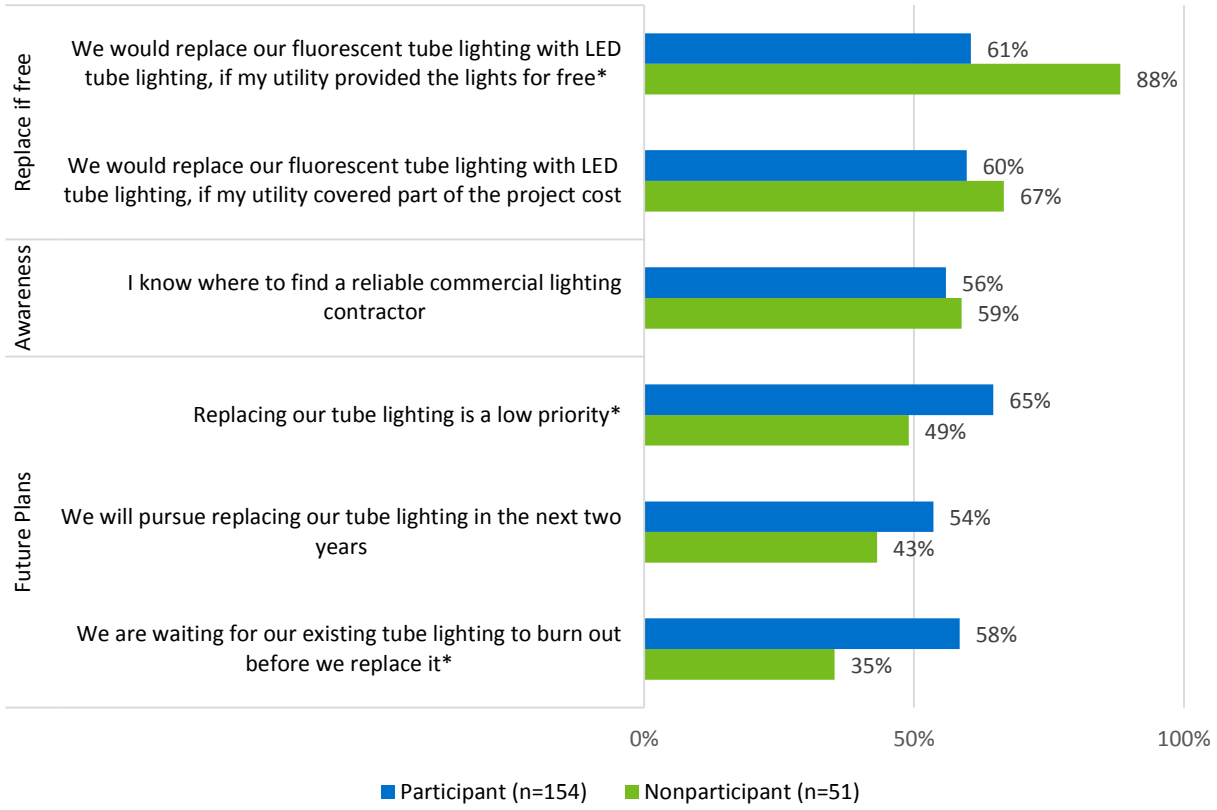
Figure 7-1: Percent that Agree with Statements about LED Characteristics



* Mann-Whitney ($p < .05$)

The majority of customers, especially nonparticipants, indicated that they would replace their inefficient fluorescent tube lighting if Avista provided the lights for free or covered part of the project cost. Interestingly, nonparticipants were significantly more likely to replace fluorescent tube lighting if Avista provided the lights for free compared to participants. The evaluation team hypothesizes that nonparticipants are less aware of what the actual costs are compared to participants that may have a better sense of actual cost. Participants were significantly more likely to agree that replacing tube lighting is a low priority for their firm and they were more likely to indicate waiting for their old lighting to burn out before replacing it (Figure 7-2).

Figure 7-2: Percent that Agree with Statements About Lighting Replacement



* Mann-Whitney ($p < .05$)

7.1.3 Approaches and Messaging Likely to be Effective at Encouraging Customers to Install Efficient Lighting

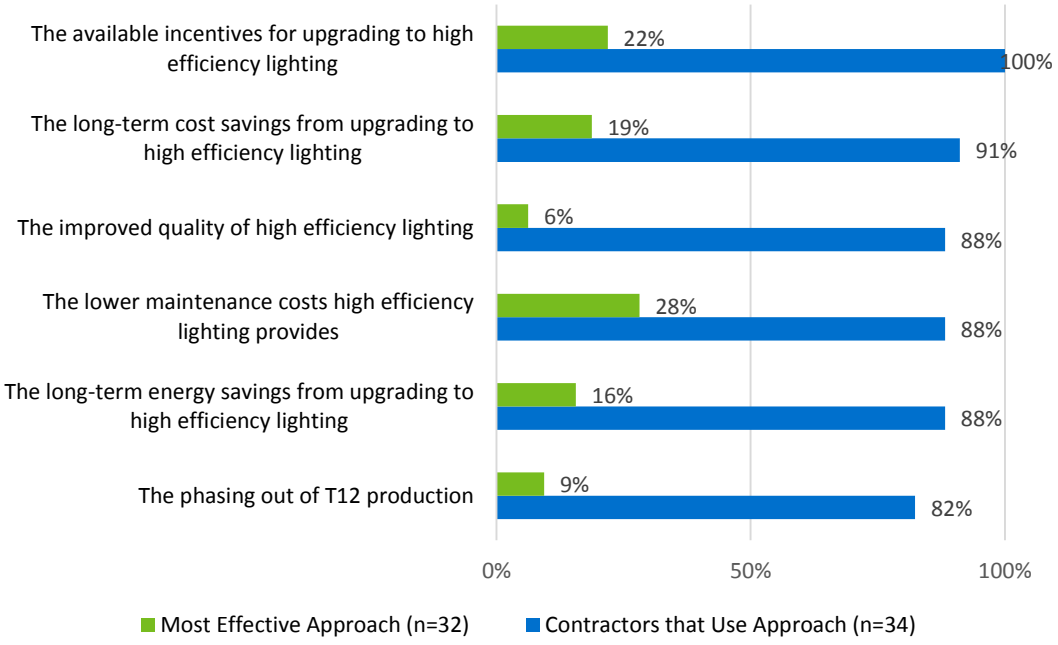
Reinforcing the energy and cost savings associated with upgraded lighting appears to be a good message that will resonate with many customers. Those that made upgrades in the last five years did so to save money (58%), save energy (38%), improve lighting quality (34%), and for several other reasons. Reasons given for making upgrades in the next two years included many of the same reasons: to save energy (47%), to save money (37%), and to improve lighting quality (26%). The one difference between those who made upgrades in the past and those considering upgrades in the future pertained to taking advantage of incentives. Past upgraders were more likely to report taking advantage of incentives as a reason whereas those considering future upgrades were less likely to report that as a reason to make an upgrade (Table 7-1).

Table 7-1: Why Respondents Made Past Lighting Upgrades and are Considering Future Upgrades

Reason to Upgrade Tube Lighting	Why Did You Upgrade (n=120)		Why Consider Upgrading (n=87)	
	Count	Perc.	Count	Perc.
To save money	69	58%	32	37%
To save money on electric bills	*32*	*27%*	*26*	*30%*
*To take advantage of incentives offered for upgrade**	*37*	*31%*	*6*	*7%*
To save energy	46	38%	41	47%
To improve lighting quality	41	34%	23	26%
To improve look/feel of space	12	10%	9	10%
Old or malfunctioning	9	8%	0	0%
Safety	3	3%	0	0%
Maintenance savings	0	0%	6	7%
Don't know	9	8%	2	2%

On average, contractors reported using many approaches to convince customers to replace T12s, all of which align with the rationales customers reported as their reasons to make upgrades. Contractor respondents reported using multiple approaches focusing on the incentives, energy savings, cost savings, lighting quality, reduced maintenance, and the phase out of T12 production. More than 8 of 10 contractors noted using each of these approaches suggesting contractors are aware of all the reasons customers choose to make upgrades and customize their approach to reach customers. Contractors varied in their response to what was the most effective approach to motivate customers (Figure 7-3). About half reported that convincing customers to replace T12s has been harder since the drastic reduction in incentives in 2013.

Figure 7-3: Approaches Used by Contractors to Convince Customers to Replace T12s (n=34)



The approach of providing free TLEDs to traditionally underserved market segments such as small businesses and multifamily properties appears to be cost effective and a promising strategy towards replacing T12s in the marketplace. According to the Small Business implementer, providing free lighting to the small business pilot participants was cost effective and Avista staff reported that a similar T12 replacement pilot would occur for multifamily properties in 2018.

7.2 Feedback from High Performing Contractors

As noted earlier, the previous evaluation identified a subset of contractors that are highly engaged with Avista programs. The evaluation team wanted to understand, what are these highly engaged contractors doing that could be transferred to other contractors to encourage greater participation? To answer that research question, the team interviewed 21 contractors that reported completing 50 or more Avista jobs per year or were identified by Avista staff and highly engaged with the program Results from these interviews are intertwined with the results of other trade ally interviews in the residential (Section 6) and nonresidential sections (Section 5).

8 Key Findings, Conclusions and Recommendations

Based on evaluation findings, the evaluation team determines the following key findings and conclusions and provides several suggestions on how to improve the program. These findings, conclusions and recommendations are divided into three categories the team examined: Cross-cutting; Nonresidential, and Residential.

8.1 Cross-Cutting

8.1.1 Key Findings

Staff indicated that the existing leadership structure of the DSM group is working well. Specifically, having a leader responsible for program implementation and meeting regulatory requirements, responsibilities that were split previously, has been helpful.

Avista staff adapted programs to reflect what they learn from the market. Avista DSM staff analyze participation data, interview participants, conduct quality assurance checks, develop new programs to reach underserved groups, and have developed closer relationships with contractors. To cross-train staff in various areas of energy efficiency, program managers periodically rotate across programs. Having staff cross-trained in programs allows them to more easily assist one another during times of heavy program activity or when a fellow manager is on leave. Staff also reported engaging in local and regional professional activities that help them learn what other jurisdictions are doing and how they can apply those lessons learned to Avista programs.

Avista's relationships with third party contractors has been effective. Staff reported good working relationships with their implementers and Avista has been highly satisfied with the service they have received from third parties.

Avista staff have worked to improve their administrative capabilities. Avista's recent purchase of the iEnergy data management platform will allow them increased knowledge about their program participants and contractors. This increased knowledge can be used for things like developing closer connections with contractors – for example rewarding highly active contractors and encouraging less active contractors to do more.

Staff strive to be fully transparent with their Advisory Group and other external parties. They provide draft documents to the Advisory Group and attend Advisory Group meetings to discuss pilots, programs, plans, and concerns. Regular interactions with the Advisory Group help staff understand commissions' expectations and allows Avista staff to communicate the issues they face in administering DSM programs.

Staff formally responded to the 2014-15 biennial evaluation report in the 2016 Annual Report and staff updated that information during interviews as part of the 2016-17 biennial evaluation. These sources indicate staff work to address the conclusions and recommendations of the evaluation team.

8.1.2 Conclusions and Recommendations

Cross-cutting Conclusion 1: Program delivery appears to be working well in both sectors. Processes work well for all residential and nonresidential programs we evaluated. Participants and contractors were typically highly satisfied with the program. The evaluation team found only the limitation that project tracking did not include contractor information, making it difficult to assess contractor engagement. Avista is remedying this situation with a new program data management platform.

Cross-cutting Conclusion 2: Contractors continue to be a driving force of the program and additional support could increase their effectiveness. Nonresidential lighting projects and savings are unlikely to continue at the same level due to lower incentives, rapid adoption of newer lighting technologies (i.e., LEDs), and the removal of the Fuel Efficiency program. Furthermore, nnonresidential programs struggle to attract nonlighting projects, especially natural gas projects.

Meanwhile, contractors promote programs, have relationships with customers (especially in the HVAC market), prepare applications, and recommend energy efficiency measures.

> ***Cross-Cutting Recommendation 1*:** Develop a comprehensive strategy to engage contractors. Consider the following tactics that might be included in an integrated strategy.

- Target contractors with measure and sector specific messaging. Consider messages about the quantity of businesses still using T12 lighting, advantages businesses recognize for TLEDs, and proportion of businesses indicating they will replace lighting in the next two years.
- Include a find-a-contractor tool on the program website to address business concerns about finding reliable contractors and help staff that currently field questions from customers seeking contractors.
- Maintain relationships with HVAC contractors that may be deterred by the removal of the Fuel Efficiency program to remind them of other Avista offerings relevant to their business.
- Provide training to contractors that may help them sell more Avista incented projects. This could include sales trainings and training about new technologies.
- Provide regular updates to contractors via an email newsletter. This newsletter could inform them of program changes, pilot program opportunities, and new technologies.

- Offer cooperative (co-op) marketing. Co-op marketing can help contractors market the program in a manner consistent with Avista objectives and help support customer perceptions of contractor credibility. High performing contractors reported using advertisements to drive sales and advertisements drove program awareness among nonparticipants more than any other outreach.
- Conduct market insights research to identify non-lighting contractors who are not engaged with the program. Such research might identify firms with notable market reach in terms of geography or number of customers, as well as firms with sub-market specializations.

Cross-cutting Conclusion 3: **The evaluation team found some inconsistencies with the values reported in Avista's 2016 and 2017 databases compared to values noted in their Technical Reference Manual (TRM).** As part of the evaluation activities, the evaluation team reviewed Avista's program participation tracking databases for accuracy and consistency. The participation databases were requested and received on a quarterly basis. The evaluation team reviewed the database for alignment with reported deemed savings values against Avista's most current Technical Reference Manual (TRM).

- ***Cross-Cutting Recommendation 2*:** The evaluation team recommends that Avista report deemed savings in alignment with what is reported in their TRM. In addition, to ensure more accurate reporting throughout Avista's DSM portfolio, it is recommended that the TRM be updated on an annual basis, and that all updates are shared across Avista's DSM program managers.

8.2 Nonresidential

8.2.1 Key Findings

8.2.1.1 Program Administration

Nonresidential program staff noted several successes they experienced in 2016-17. For Prescriptive and Site Specific participants, staff cited high levels of participant satisfaction, appreciation for the T12 and T8 conversion projects, and enthusiasm for the new data tracking system that will enable them to better engage with contractors. Staff noted that the Energy Smart Grocer implementer has been able to re-energize interest in the program by reaching out to new customers, especially restaurants and some retailers. Staff also reported success with the Small Business program including high levels of satisfaction among participants, more savings than forecasted, and anecdotal evidence that Small Business participants were participating in other Avista programs.

Nonresidential program staff cited several challenges they experienced in 2016-17. Prescriptive and Site Specific challenges included booking non-lighting projects with customers (especially natural gas projects), getting some customers to follow program procedures so that Avista can book the savings, and working with customers that do not have a contractor in mind for their project.

8.2.1.2 Program Awareness and Involvement

Contractors have typically been aware of and used Avista programs for a long time. Almost three-quarters of contractors have been using Avista programs for greater than five years. Lighting contractors, the dominant contractor type surveyed, reported greater use of Avista programs than their HVAC counterparts.

A small percentage of HVAC contractor work receives Avista incentives in comparison to lighting contractors and electricians. HVAC contractors estimated, on average, about 2% of their work qualified for Avista incentives compared to 34% for electricians and 51% for lighting contractors.

Using Avista representatives to contact small businesses was an effective mechanism to inform the small business sector about Avista offerings. Four-fifths of Small Business participants reported they learned about Avista offerings from their interaction with an Avista representative.

Few nonresidential participants were aware of offerings for shell measures, food service equipment, and other offerings. Of nonresidential participants aware of Avista offerings, other than the one they participated in, most were aware of programs for lighting and HVAC.

Participants of Prescriptive, Site Specific, and Energy Smart Grocer programs were more likely to report past participation in Avista programs than their Small Business counterparts. This finding is consistent with the approach and design of the respective programs as the Small Business program was designed to reach traditionally underserved customers. The majority of past participants completed lighting projects and a few made HVAC upgrades.

8.2.1.3 Influences on Customer Decision Making

Close to two-thirds of all customers, participants and nonparticipants, reported having some type of energy saving practice or policy in place at their site. Most commonly reported among participants was having a person responsible for managing energy usage, whereas nonparticipants were more likely to report having a policy for energy efficient purchasing. Of nonparticipants with some type of policy or practice in place, the majority indicated having the policy in place for five years or more.

Contractors and participants agreed on what motivate customers to participate in the program, but disagreed on the motivations. Large percentages of both groups noted that customers participate in the program to save money, however, a large percentage of contractors reported customers participate to increase the comfort of occupants, a motivation reported by a much smaller percentage of participants.

Commercial contractors largely agree that Avista incentives help them get work and nudge customers to install more efficient equipment than they may have otherwise. Three-quarters or more of contractors agreed that they always tell customers about Avista

incentives, that incentives help them sell jobs, and that incentives push customers to install more efficient equipment.

Contractors play a major role in preparing applications and compelling participants to complete a project. More than 90% of contractors reported completing applications for customers or completing the application with the assistance of customers.

High performing contractors did not identify one overriding reason for why customers contact them and in turn do upgrades. About equal numbers of respondents reported customers do upgrades to improve performance or comfort of their existing systems, for energy savings, and due to failing or failed equipment.

High performing contractors use multiple techniques to generate program participants including focusing on specific attributes of equipment and specific equipment. All focus on the long-term savings efficient equipment provides, the lower cost of the equipment due to incentives, and some mention the short payback and improved operations and maintenance costs. These contractors also tend to focus on specific measures when promoting the program. Lighting contractors focus on LEDs and parking lot lights. HVAC contractors focus on electric to natural gas boiler incentives, and the food service equipment contractor focused on fryers and dishwashers.

High performers reported using multiple tactics to allay customer concerns with efficient equipment. Most reported customers are sometimes concerned with equipment reliability and they allay that concern by providing a warranty with the equipment. Lighting customers are sometimes concerned about certain lighting qualities and some contractors will install some sample lights for the customer to “test-drive” the lights before committing to a large-scale installation.

Almost all high performers encourage their customers to consider upgrades other than what they may have initially contemplated. Electrical contractors reported preparing formal upgrade plans for customers that provide a list of projects with a cost and savings estimate for each project. Another contractor noted that they look for old and aging equipment in a facility and recommend to customers to replace that equipment and another contractor will suggest to customers with multiple sites that there may be savings opportunities at those other sites.

8.2.1.4 Program Experience

Participants were largely highly satisfied with their program experience. Avista staff received high praise from participants, especially among audit participants that largely characterized the auditors as professional and able to communicate the audit results clearly. Rebate participants reported the program provided a reasonable variety of equipment and the time to receive their rebate was reasonable. Site Specific participants largely agreed the time to receive their upgrade recommendations was reasonable and those that received a site inspection reported the inspection was minimally disruptive.

Most audit recipients reported they had or would implement at least some of the recommended upgrades from their audit. About three-quarters of audit recipients indicated they had or would implement the energy efficient recommendations and about four-fifths indicated they would install energy efficient lighting measures. Few indicated they would make HVAC, shell, or other upgrades.

Contractors were largely satisfied with the program staff, processes, and equipment. Fewer reported satisfaction with the outreach conducted by the program, however around 15% of respondents indicated they did not know much about the outreach Avista did. Excluding those who did not know about some elements increases the percentages of contractors satisfied with various program elements.

8.2.1.5 Opportunities for Increasing Program Participation

Communicating with contractors is best done online via electronic mediums like email and websites, according to contractor survey responses. Almost all nonresidential contractors reported electronic methods as the best way to reach them, compared to mail, workshops, or phone.

Nonparticipants recently made and are planning to make building upgrades. This indicates both a lost opportunity and future opportunities for the program. More than one-third of nonparticipants reported they plan to make a building upgrade in the next two years and almost half of nonparticipants reported making building upgrades in the last two years. Almost two-thirds of those respondents planning to make an upgrade reported planning a lighting upgrade and fifteen percent plan to make HVAC upgrades. Of those who made upgrades in the last two years, almost half made lighting upgrades and almost a quarter made HVAC upgrades.

Nonparticipants have little awareness about their HVAC equipment and the possible savings, increased comfort, and other benefits that could result from HVAC upgrades, particularly from installing VFDs. Less than one-fifth of nonparticipants considered replacing their HVAC equipment and even fewer ever talked to a contractor or Avista representative about opportunities and more than two-thirds indicated they would install VFDs in their HVAC system, even after hearing about the potential benefits during the survey.

8.2.2 Conclusions and Recommendations

<u>Nonresidential Conclusion 1</u>: **Customer awareness of Avista's non-lighting offerings is low and identifying non-lighting projects, especially for natural gas, remains challenging**. About half of nonresidential nonparticipants are not aware of Avista programs despite the fact that more than two-fifths of these respondents reported having energy efficiency policies in place. Customers with awareness typically are aware only of Avista's lighting programs, consistent with lighting's proportion of portfolio savings. Many customers reported they have never considered upgrading their HVAC systems and even fewer customers are aware of the *benefits* of non-lighting efficient technologies, such as VFDs. More than two-fifths of

nonparticipants indicated plans to upgrade their properties in the next two years, suggesting an opportunity for Avista to influence them to make energy efficient decisions.

> ***Nonresidential Recommendation 1:*** Focus on marketing the energy efficiency benefits of non-lighting technologies to both contractors and customers. The iEnergy platform may facilitate targeting potential participants and contractors with non-lighting collateral.

Nonresidential Conclusion 2: There are still opportunities to garner lighting savings. Roughly half of all customers indicated they will pursue replacing their fluorescent tube lighting in the next two years and customers largely agree that LEDs are superior to T12 lighting, suggesting an opportunity for Avista. However, the evaluation team found in the last biennium a similar proportion of customers with old lighting systems. Furthermore, few customers report being contacted by a program representative or a contractor about the benefits of LEDs. These findings suggest that Avista will need to be proactive to influence the market.

> ***Nonresidential Recommendation 2*:** Avista should leverage its incentives by increasing its outreach to customers and contractors, assisting customers to find reliable contractors, and developing one or more case studies that illustrate the nonenergy benefits of TLEDs.

8.3 Residential

8.3.1 Key Findings

8.3.1.1 Program Delivery

Similar to the nonresidential contractors, residential contractors reported being aware and familiar with at least some Avista programs for a long time. Almost three-quarters of residential contractors reported completing projects that received Avista rebates for at least the past five years.

Avista projects constituted a considerable portion of all contractor respondent's work. HVAC contractors reported, on average, that three-fifths of their work received Avista incentives and shell contractors reported, on average, that more than half of their work received Avista incentives.

Contractors are largely satisfied with their program experience, however, about one-fifth of contractors are unaware of Avista's outreach efforts. Contractors noted particular satisfaction with the range of qualifying products that receive incentives and the ability of staff to resolve problems and explain the program. Suggestions for improvement included increasing rebate levels, increasing advertisements about the program, decreasing the amount of time it takes to complete program paperwork, and improving the performance of the website.

Contractors largely agree that the Avista programs benefit their business. According to almost all surveyed contractors they always tell customers about Avista incentives which in

turns pushed customers to install energy efficient equipment and ultimately helped them sell jobs.

Residential contractors focus on the lower operation costs of efficient equipment and the high quality of the equipment when communicating the benefits of efficient equipment to their customers. Less than two-thirds of contractors reported focusing on improved comfort, the rebate or the lower maintenance costs.

Avista projects constituted a considerable portion of all contractor respondent's work. HVAC contractors reported, on average, that three-fifths of their work received Avista incentives and shell contractors reported, on average, that more than half of their work received Avista incentives.

High performing residential contractors often get large portions of their program participant customers from past customers – people they did maintenance, service, or other work for in the past. On average, more than a third (36%) of projects came from customers they worked for in the past and more than two-fifths (42%) of projects came from referrals from other customers or from other contractors – that is other contractors or customers referred potential customers to their company. Relying on past customers was particularly important to HVAC contractors.

Most high performing residential contractors purchase some sort of advertisement with roughly equal proportions of contractors reporting use of a website, newspapers, television, radio, phonebooks, and social media or a music streaming service. Other advertisements included sponsoring local sports teams and Chamber of Commerce and Rotary Club events, using direct mail, advertising at a home show, and local movie theater ads.

Contractors interact with the program more than customers. Of the high performing contractors, all complete program paperwork for customers in all (11) or in half of their cases (2) suggesting that contractors are the primary mechanism for submitting applications and interacting with Avista.

High performing contractors use a variety of sales pitch techniques to generate program participation including focusing on characteristics of efficient equipment or specific equipment.

- **Most focus on long-term savings** (11 of 13) and many focus on non-energy benefits (7 of 13). HVAC contractors often focus on ductless heat pumps (6 of 9), high efficiency gas furnaces (6 of 9), efficient water heaters (6 of 9).
- Five of the nine HVAC contractors noted **relying on their maintenance and service calls** to generate future program participants.
- Most high performing contractors encourage **customers to consider upgrades other than what was initially contemplated.** For example, one contractor noted pointing out

old equipment that may be at the end of its useful life and several other contractors suggested that a customer consider bundling projects.

8.3.1.2 Customer Experience with Rebate Programs

Nonparticipant's awareness of Avista programs is largely due to some advertisement from Avista or via word-of-mouth from friends and family. Participants were largely aware due to interactions with a contractor. More than half of nonparticipants were aware of the program from advertisements and more than a quarter were aware via word of mouth. About half of participants reported program awareness because of a contractor.

In 2017, Shell and Fuel Efficiency participants, compared to HVAC participants, were more familiar with other Avista energy efficiency rebates or rebates besides the one for the measure they installed. Slightly more than two-thirds of Shell and Fuel Efficiency participants were familiar with other Avista rebates in 2017 which was significantly more than were aware in the 2014-15 biennium.

Roughly a third of nonparticipants were aware of Avista's residential rebates and slightly more than half expressed interest in learning more about rebate opportunities. Of those aware, about a quarter knew about rebates for HVAC equipment, shell measures, and lighting discounts at retailers. Fewer reported awareness of rebates for conversion from electric to gas measures, Energy Star Homes, appliances, and water heaters. More than half expressed interest in receiving energy saving information.

Participants were motivated to participate in the program for many reasons. The top reasons, expressed by more than four-fifths of participants, were to increase the comfort of their home, save energy on utility bills, take advantage of the opportunity for upgrades at a reduced cost, and because it seemed easy to use the program. Reasons to participate did not vary by program type except that Fuel Efficiency participants were more likely to report being motivated by taking advantage of the opportunity to upgrade at a reduced cost and Shell participants were more likely to report being motivated by increasing the value of their home.

Three quarters of nonparticipants that completed recent home upgrades indicated the upgrades included energy efficient measures. This suggests a lost opportunity for Avista to have booked savings associated with these upgrades.

About a quarter of nonparticipants reported they will make upgrades in the next two years. Of those planning upgrades, most plan to install new windows or insulation. Far fewer indicated other measures such as water heaters or HVAC equipment.

Participants were satisfied with the Avista program experience, their contractors, and the measures installed. The majority of surveyed participants reported being either "very" or "completely" satisfied with various aspects of the Avista rebate program. Shell participants reported slightly lower levels of satisfaction with the rebate amount than other participants and

Fuel Efficiency Participants reported lower levels of satisfaction with the rebate turnaround time than other participants.

The clarity of information differed by type program type. Significantly fewer Fuel Efficiency participants (62%) reported information on how to apply for Avista rebates was clear in program collateral compared to other program participants (87% for HVAC and 81% for Shell). Additionally, the clarity of information regarding which equipment or items qualified for rebates was less clear for Fuel Efficiency and Shell participants than for HVAC program participants Sixty-nine percent and 70%, respectively, said it was clear, compared to 87% for HVAC participants.

Participants reported concerns with the process of participating, things like eligibility concerns and the time it would take to participate, more than concerns about cost. A little less than a quarter of respondents (n=38) noted concerns about participating, even after reviewing program information. Of these, more than two-thirds (68%) expressed some type of concern with the process of participating and about half that percentage (37%) expressed concerns with the incentives not being high enough

Almost half of participants are considering participating again. More than one-half (58%) of 2016 and 2017 surveyed participants reported being familiar with other energy efficiency rebates aside from the one they received. A little less than half (46%) of those familiar with other Avista rebates noted they are “very likely” to apply for another rebate in the next two years.

Rebate participants are a potentially promising target market for shell measures because many reported their homes are uncomfortable or have old and ineffective insulation. More than three-fifths of respondents indicated their home could use additional insulation or were uncertain about the quality of the insulation in their home and more Washington respondents were likely to report having poor insulation than Idaho respondents.

8.3.2 Conclusions and Recommendations

Residential Conclusion 1: There is a need to increase participation in residential rebate programs in the next biennium cycle. Per staff interviews and recent Washington regulatory filing,[17] Washington’s Fuel Efficiency program will likely no longer be offered in the next biennium. The Fuel Efficiency program has the highest participation among the rebate programs the evaluation team evaluated. In addition, the majority of high performing HVAC contractors the team interviewed are combining offers of incentives for both Fuel Efficiency and promoting LEAP (a program outside of the conservation portfolio) to stimulate participation in the Fuel

[17] Commission Staff Comments Regarding Utility Conservation Plans Under The Energy Independence Act, RCW 19.285 and WAC 480-109 (2018-19 Biennial Conservation Plans), December 1, 2017; In the Matter of Avista Corporation 2018-19 Biennial Conservation Plan. https://nationalefficiencyscreening.org/wp-content/uploads/2017/12/WA-UTC-171087-91-92-Staff-Comments-12-1-17.pdf (Accessed on March 29, 2018).

Efficiency program. If Fuel Efficiency incentives are no longer offered, then high performing HVAC contractors who currently promote both Fuel Efficiency and other HVAC incentives might become less engaged with Avista.

***Residential Recommendation 1*:** Consider the following:

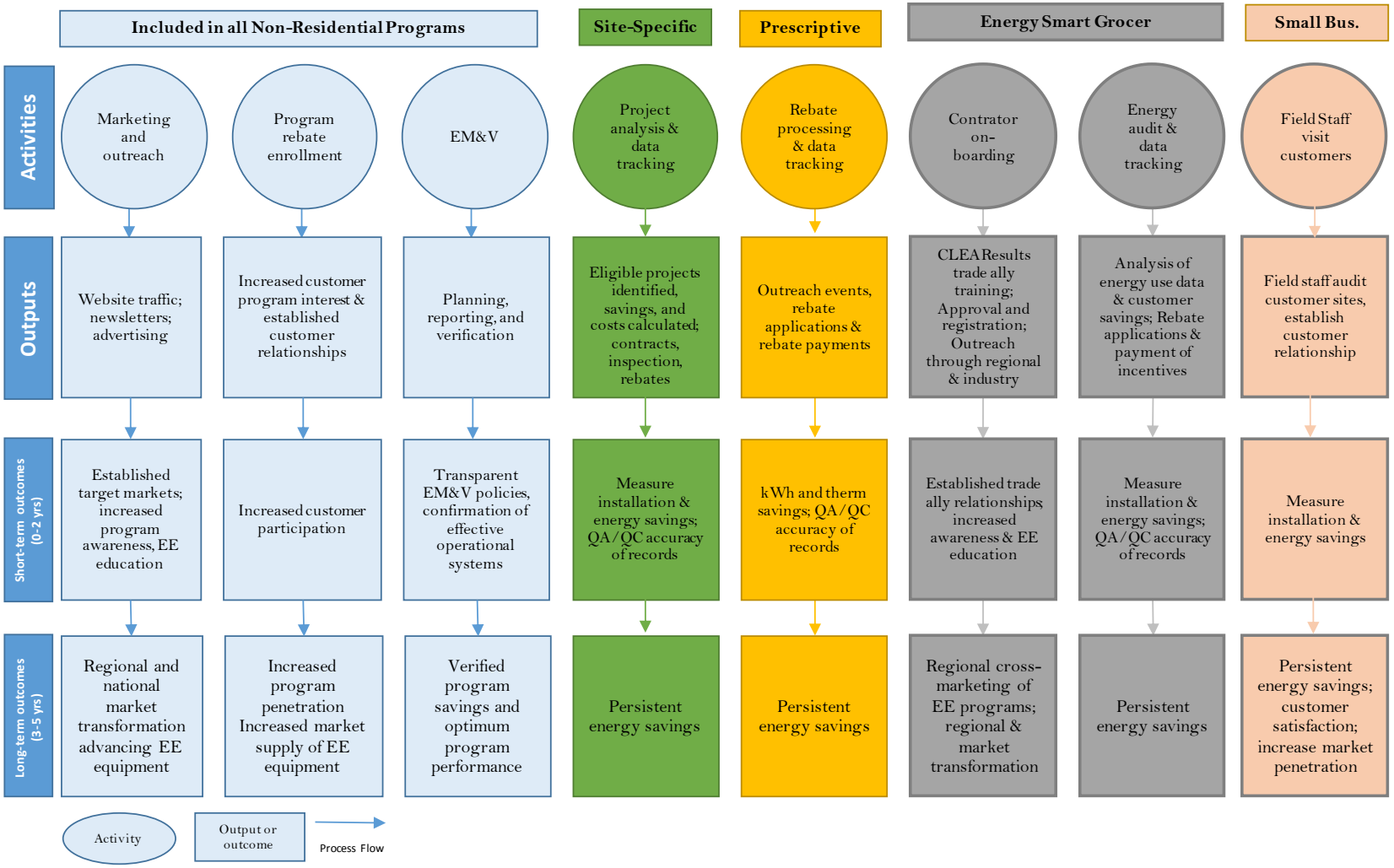
- Provide contractors with customer collateral promoting Avista's HVAC, shell, and water heating incentives, serving to nudge both customers and contractors to consider the breadth of Avista's offerings.
- Confer with high performing HVAC contractors during program and incentive planning to gather their insights concerning increasing participation.

Appendix A. Program Logic Models

Avista Nonresidential Natural Gas and Electric Program Logic Model

Data sources: Logic model from the prior evaluation, program documentation, Avista staff

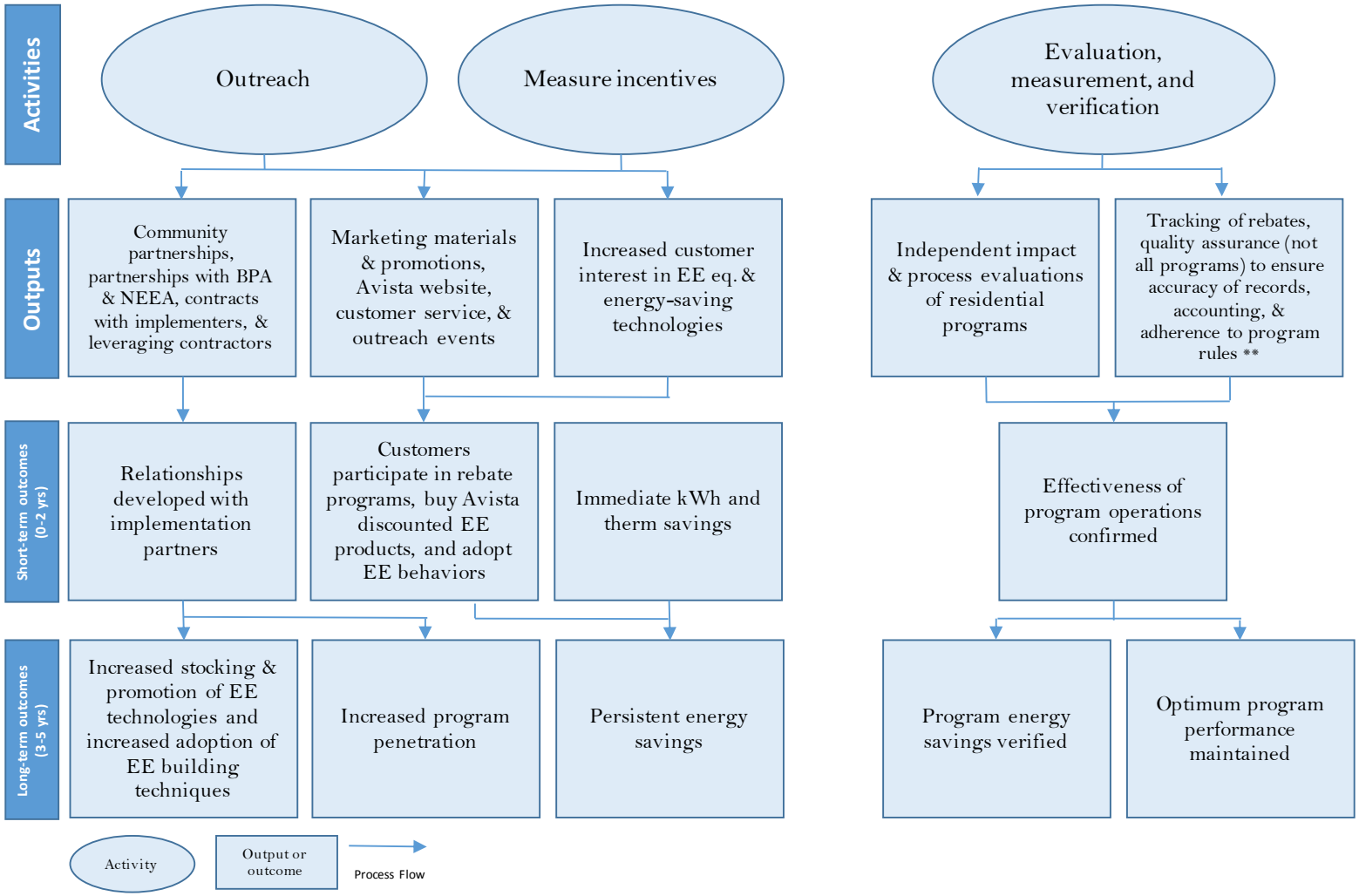
Program inputs: Prescriptive lighting, prescriptive non-lighting, Small Business, and site-specific programs



Avista Residential Natural Gas and Elctric and Electic-Only Program Logic Model

Data sources: Logic model from the prior evaluation, program documentation, and Avista staff interviews.

Program inputs: Rebate programs (Shell, HVAC, conversions, etc.), Simple Steps Smart Savings, and Behavior Home Energy Reports*



* Behavior home energy reports will not continue in 2018. Instead, several new behavior pilots will be tested in 2018-2019.

** Avista is adopting a new program tracking software that will centrilize all program tracking data in 2018-19.