

# Motivating Residential Customers: Is More Money Really the Answer?

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## ABSTRACT

A variety of national trends, including the federal stimulus funding directed towards the residential sector, the federal tax credit for energy-saving home improvements, and the possible national HOMESTAR program, are indicators of the strong interest in increasing energy savings from existing homes. In addition, state-level goals continue to become more aggressive and are oftentimes paired with tighter budgets and a shorter timeframe to realize required energy savings.

Focus on Energy, administered by the Wisconsin Energy Conservation Corporation (WECC), was tasked with designing pilot programs to identify effective approaches to achieving greater energy savings in homes. Integrated into a statewide initiative, these pilot programs modified existing offerings to attempt to promote faster, higher penetration, and/or deeper energy savings in residences.

This paper presents the evaluation results of two pilot residential programs: 1) Home Performance with ENERGY STAR<sup>®</sup> (HPWES) Increased Incentives and 2) Heating Equipment Bonus. These enhanced programs nearly double the statewide incentives if customers meet the unique requirements of the pilot. Although both of these programs offered significant enhanced incentives, their performance differed dramatically. The evaluation findings address the factors that drove the programs' performance.

Often, it is hypothesized that money is the primary impediment to the implementation of energy-efficiency measures. These evaluations tested this theory, but also identified other influential factors in customers' uptake. These evaluations also assessed the benefits of expanding the pilot models statewide.

## Introduction

Since 2001, the state of Wisconsin has sponsored a statewide public benefits-funded energy-efficiency initiative titled the Focus on Energy (Focus). The goal of Focus is to develop a self-sustaining, competitive energy-efficiency services market in Wisconsin. Two programs included under the Focus umbrella—and referenced within this paper—are the Efficient Heating and Cooling (EHC) and Home Performance with ENERGY STAR (HPWES) programs.

In Contract Year (CY) 2010 (January 1 2010–December 31, 2010), the Wisconsin Public Service Corporation (WPS), an investor-owned utility in Wisconsin, provided funds to test a number of pilot programs, termed the WPS Territory-wide Pilot programs. The goal of the territory-wide programs was to increase energy impacts within the WPS territory through new program approaches (e.g., increased incentives under specified program conditions, increased outreach and training to trade allies). If deemed successful, the programs would be expanded to the full Focus program.

Most of these programs directly piggy-backed on the Focus infrastructure, and for the most part, provided the same measures and services to Focus customers. Although many programs were included in this portfolio of new offerings, we only illustrate the two programs that are the topic of this paper—the Heating Equipment Bonus and Home Performance with ENERGY STAR Increased Incentives Programs. Table 1 documents the WPS Territory-wide pilot programs discussed within this paper, related existing Focus program, and incentive levels provided to customers that participate in the WPS

Territory-wide program. Note that this incentive is in addition to benefits offered through the standard Focus programs.

**Table 1.** WPS Territory-wide and Related Focus on Energy Programs

WPS Territory-wide Program (Enhanced Pilot Programs)	WPS Territory-wide Offering to Focus Participants	Related Focus on Energy Program (Existing Programs)
Heating Equipment Bonus	Provide an additional \$250 bonus for an ECM furnace and \$200 bonus for a modulating boiler	Efficient Heating & Cooling (EHC) program
Home Performance with ENERGY STAR <sup>®</sup> Increased Incentives	Homeowners have the option of choosing either triple rewards or reduced interest-rate financing plus \$250 in cash	Home Performance with ENERGY STAR <sup>®</sup>

The evaluation team used a quasi-experimental approach to assess the effectiveness of the enhanced program design and the level of program influence on decisions to install measures. For both programs, the evaluation team 1) analyzed three years of program data to identify historic trends by territory (pilot and the remainder of the state); 2) completed in-depth telephone interviews with contractors to assess the effect of the enhanced approaches on their business practices and projects; and 3) completed telephone surveys with participating customers from the pilot and statewide territories to compare the influence of the programs on their decisions to install measures.

By the fourth quarter of 2010, the Public Service Commission of Wisconsin (PSC) and the Focus team determined that none of the WPS Territory-wide pilot programs, including the two programs discussed within this paper, merited statewide expansion. A number of programs, including the HPWES Increased Incentives Program, continued in 2011 as pilot programs with modifications.

The remainder of this paper introduces the programs, summarizes the evaluation methodology, and presents the key findings within program-specific sections. The conclusion section synthesizes the two evaluations and provides final take-aways gleaned from the analysis within this paper regarding the overall influence of monetary incentives.

## Home Performance with ENERGY STAR Increased Incentives

This section presents the results of the evaluation efforts for the WPS Territory-wide HPWES Increased Incentives program. The WPS HPWES Increased Incentive program supplemented the standard statewide Focus HPWES program by increasing incentives for completing a package of the most cost-effective measures, aiming to increase project completion rates.

The HPWES program works with a network of independent consultants and contractors (herein referred to only as contractors) who help customers increase the energy efficiency, comfort, safety, and durability of their homes. The contractor first completes a comprehensive evaluation of a home's insulation, air leakage, mechanical equipment, moisture and ventilation, combustion safety, and carbon monoxide levels. The contractor then provides a report with a list of recommended energy-efficiency measures.

In the WPS enhanced pilot program, the incentive amounts are increased with a customer option of choosing three times the standard Focus HPWES incentive or reduced-interest financing plus \$250 in cash. For example, a statewide Focus participant would receive \$100 for installing attic insulation under the standard program, whereas a WPS HPWES Increased Incentive participant would receive \$300. However, to be eligible for the increased rewards and reduced-rate financing, participants must complete at least three recommended insulation, air sealing, and/or combustion safety measures within six months of the initial assessment.

## **HPWES Increased Incentives Program Evaluation Methodology**

There were two elements of this evaluation. The first was a program database analysis to identify any potential impacts of the WPS programs' enhancements over the Focus program, particularly in terms of increased participation and/or savings.

The second element was a process evaluation conducted in November of 2010, which was based on results from in-depth interviews with home performance contractors and telephone surveys with program participants. The primary objective of the process evaluation was to understand to what degree, if at all, the increased incentives offered through the WPS HPWES program influenced the installation of measures recommended by program contractors in the WPS territory.

Both these activities used a cross-sectional approach. The cross-sectional analysis compared the performance or influence of the program in the WPS territory compared with the rest of the state. The database analysis also incorporated a longitudinal analysis, including participation trends from the two years prior to the launch of the WPS program.

## **Key Findings from the HPWES Increased Incentives Program Evaluation**

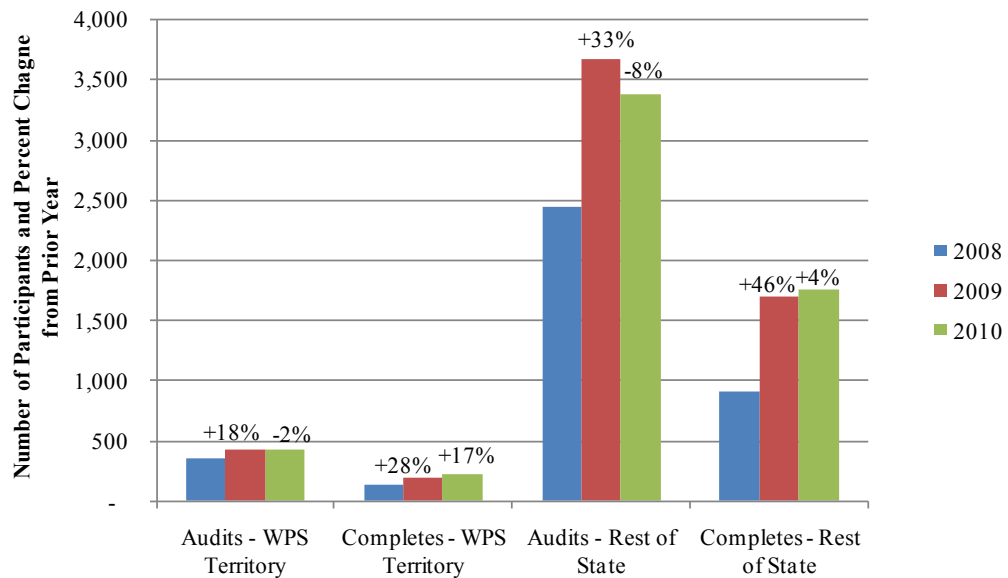
The WPS HPWES Increased Incentives program was designed to outperform the standard statewide Focus offerings by accomplishing the following: increasing the project completion rate, increasing the per-household savings, and reducing the amount of time from the audit to project completion. Evaluation results did not indicate that this program design had the intended impacts. Participation in the WPS HPWES program fell significantly short of its energy savings goals of 138 kW, 263,874 kWh and 130,058 therms. The program met 20 percent of its kW, 20 percent of its kWh, and 34 percent of its therms goals. However, there is some indication that the program may be driving higher natural gas (therm) savings. The program instituted the three or more recommended measures requirement in an effort to ensure the program did not provide bonus incentives for lower-saving participants. The average therms savings per participant within the WPS territory was approximately 16 percent higher than the Focus territory. Additionally, the measure-level analysis shows that WPS bonus recipients were more likely to receive program-targeted measures, such as insulation and air sealing.

The remainder of this section provides more details around the results from this WPS Territory-wide Home Performance with ENERGY STAR (HPWES) Increased Incentives program evaluation.

**Program impact on participation and completion rates.** One of the program goals was to increase the number of households served by the program. Perhaps more importantly, the program was also designed to increase the number of households that installed equipment as a result of the audit (defined as "completed projects" in this paper).

The database analysis did not reveal evidence that the program increased the number of participants that received an audit or completed a project. Figure 1 presents the number of participants that received a pre-assessment audit, the number of participants that completed the projects, and change in participation rates from 2008 to 2010. In theory, the additional incentives would increase program participation to a higher degree and/or increase the completion rate (audit to installation) within the WPS territory.

However, the data does not provide clear evidence that either participation or completion rates increased as a result of the increased incentive. The trends and changes in audit and completion rates across the years were similar for WPS and the rest of the state.



**Figure 1.** HPWES Participation Trends and Percent Change in WPS Territory and the Rest of the State

**Program impact on number of measures installed.** One objective of the WPS incentive was to increase the overall savings, which was in part driven by increasing the average number of measures installed in the home. The program design element that addressed this objective was the bonus for installing at least three recommended higher-impact measures (insulation, air sealing, and/or combustion safety measures).

One-half of the contractors reported that the three-measure requirement increased the number of measures installed for WPS bonus projects. Although the database analysis showed that the average number of measures installed per project increased by ten percent between 2009 and 2010 in the WPS territory (compared to six percent in the Focus territory) there was no difference in the average number of measures installed per project between the two territories in 2010 (Table 2).

**Table 2.** Average Number of Measures Installed per Home (2010 is the first program year)

Year	Homes with Completions Only	
	Non-WPS Territory	WPS Territory
2008	3.1	3.1
2009	3.6	3.4
2010	3.8	3.8

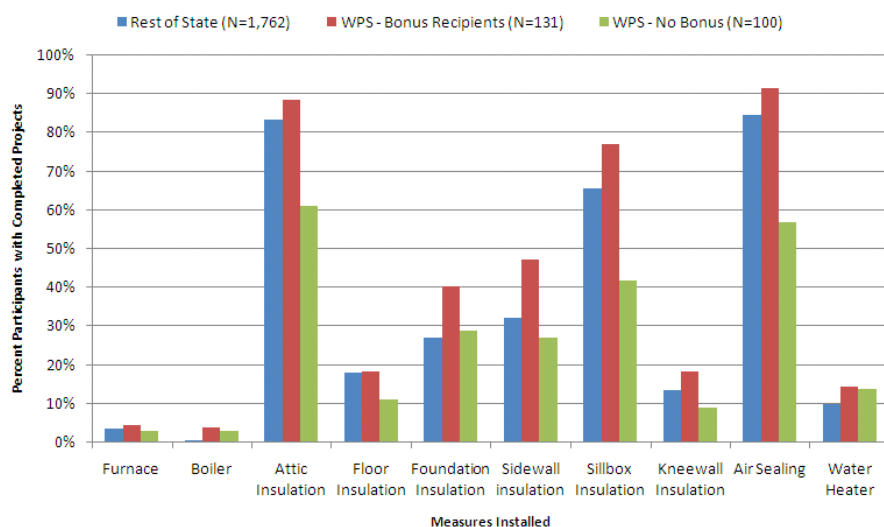
One issue the program did not take into account was that the Focus program in its current form, even absent the increased WPS incentives, was installing an average of three measures. And as presented above, most WPS participants (83 percent) reported that they would have installed the same number of measures in the absence of the three-measure requirement.

**Program impact on resulting savings.** Another objective of the HPWES Increased Incentives program was to promote deeper savings. The program provides bonus incentives to participants if they complete the three recommended insulation, air sealing, and/or combustion safety measures. These three categories were selected as they are the highest-impact measures promoted through the program.

All ten contractors interviewed reported that that WPS bonus projects resulted in more savings than projects completed outside of WPS territory. Six contractors interviewed serve both the WPS territory and the rest of the state. These contractors noted a difference in the installation of the higher-impact measures within the WPS territory.

The database analysis confirmed the contractors' perception and found that the average gas savings per project increased by 16 percent in the WPS territory but declined by four percent in the overall Focus territory between 2009 and 2010; however, the increase in electricity savings in the two territories was similar. In 2010, the WPS territory had, on average, 16 percent more gas savings and two percent more electricity savings than in the Focus territory.

A review of the measure data further explained the savings analysis. WPS Bonus recipients are more likely than those who did not receive the bonus to install insulation and receive air sealing, which are measures that drive the highest energy savings through the program (Figure 2).



**Figure 2.** Measure Analysis by Territory and WPS Bonus (2010 Completed Projects Only)

**Level of influence of the incentive on participants' decisions to install equipment.** Seeing a first-cost barrier, along with the direction to design a program to yield deeper energy savings, WECC designed the program to provide a higher incentive for WPS customers that fulfilled a number of requirements. As such, a primary researchable issue of the study was to understand the influence the program had on participants' decision to install the promoted equipment and whether the WPS increased incentive influenced participants' decisions to a greater extent than the standard Focus incentive.

All contractors interviewed reported that the WPS bonus rewards were influential in encouraging participants to install recommended measures. Additionally, contractors reported that that the WPS incentives were more influential than the Focus incentives. The average rating, on a scale of 0 to 10, where 0 means "not at all influential" and 10 means "extremely influential", was an 8.7 for WPS and 6.0 for Focus.

Consistent with contractors' views, WPS participants were less likely than general Focus participants to say that that they would have added the measure at the same time, or purchased the measure without the reward. A somewhat lower percentage of WPS participants (69 percent vs. 83 percent) reported that they would have added the measures at the same time without the HPWES reward (Table 3). In addition, a slightly lower percentage of WPS participants (66 percent vs. 77 percent) said they were very likely to have bought the measures without the HPWES reward. Both of these results

indicate greater program influence for the WPS program, although overall, the participant self-report results indicate that the reward itself was not highly influential.

It is important to note though that the analysis measures a variety of different aspects of the program. Although the participants said they would have added measures without the reward, they were also likely to rate the contractor as influential in their project, and report that the program was influential in their decisions. This analysis illustrates the importance of the technical guidance provided by the auditors, as well as the incentives, for programs such as HPWES.

**Table 3.** Summary of Program Influence

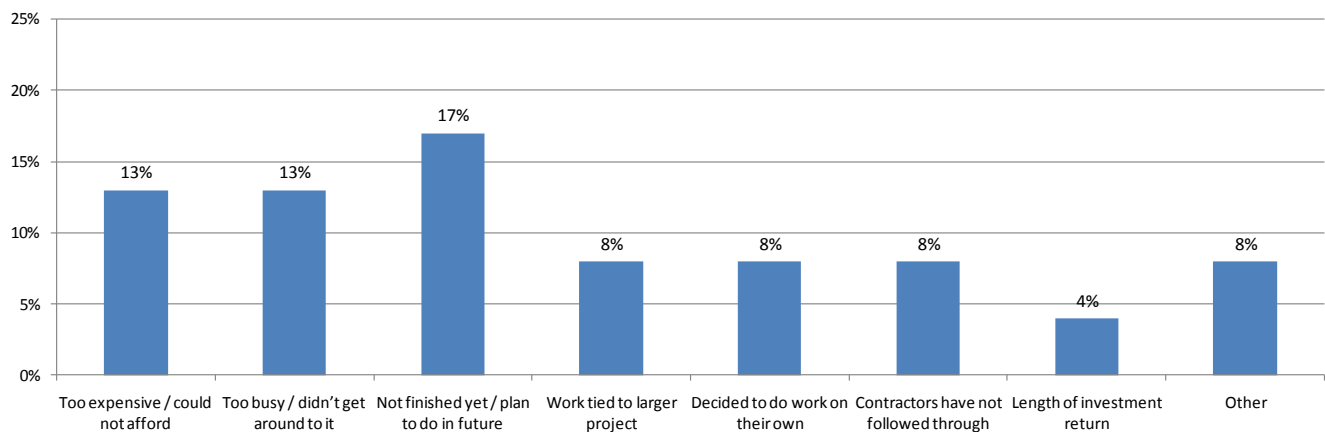
Percentage of Participants who ...	WPS Participant	Focus Participant
<i>Sample size</i>	77	174
Would have added measure at same time without HPWES reward	69%*	83%*
Were very likely to buy measure without HPWES reward	66%*	77%*
Rated the contractor as influential	70%	72%
Said the HPWES program was influential to their decision	43%*	59%*

\* Indicates a statistically significant difference at the 90 percent confidence level between WPS and Focus participants.

**First cost: but is it a barrier?** One of the premises of the HPWES increased incentive program was to overcome first-cost barriers. The program staff hypothesized that the initial project costs inhibited program uptake based on comments from contractors and program participants.

The evaluation team completed qualitative interviews with 10 out of 16 contractors that provided services to WPS participants. Most contractors interviewed (eight of 10) reported that customers who received an audit but did not install the recommended measures decided it was too expensive. However, the participant survey did not corroborate this perspective.

The evaluation team spoke with 24 households that received an audit but did not move forward with a project. Of these participants, only about thirteen percent of WPS respondents indicated that it was too expensive or that they could not afford the project (Figure 3). Other reasons for participants not moving forward with the project were that they were too busy, they didn't get around to it (13 percent), or they started the project but were not finished yet (17 percent). One quarter of respondents said they were still planning on installing measures (not shown in the figure).



**Figure 3.** Reasons for Not Following through with Project (n=24)

**Other influential factors: outside incentives and credits.** Based on participant and contractor interviews, outside funding sources (including the Federal tax credit), were a factor in participants' decisions to install measures at the time they did. Forty percent of WPS participants and 50 percent of Focus participants reported receiving outside financial assistance. The majority of these respondents said they received, or would file to receive, the federal tax credit. However, the data collected was not sufficient to understand whether the federal tax credit had a higher level of influence on customers' decisions than other program elements.

**Other influential factors: the contractors.** Contractors have a significant role in this program. They provide the initial assessment based on their audit. They also provide a consulting role for participants, providing to education and addressing participants' questions and needs. As such, they have the opportunity to be highly influential in participants' decisions.

To further impress this point, we asked participants to rate the influence the contractors had on their decisions to install the program equipment through the program. The participants rated the level of influence on a 0 to 10 scale, where 0 was not at all influential. They rated the level of influence the contractor had on their decisions between a 7.0 and 8.0 on average. WPS participants said their contractor's influence was highest for attic and sidewall insulation, two services highly promoted by the WPS program.

**Program influence on the contractor market.** Although not a stated metric, the designers included an outreach and education component for contractors in their program theory to recognize the importance of the contractor market on participants' decisions. In practice, though, there was not a significant effort to expand the education to these trade allies beyond what was currently offered under Focus. And contractors generally reported that the WPS program has not influenced them to change their recommendation practices. However, a few respondents mentioned that they are more likely to recommend insulation because it is more cost-effective due to the higher incentive levels, or to meet the three-measure requirement in order to receive the higher incentives.

The WPS Territory-wide HPWES program is continuing in 2011 with some modifications. In the next program year, the program administrator is planning to create more of an educational push into the contractor market. The goals of this effort would be to 1) bring additional contractors into the program, and 2) promote a higher level of completions with higher savings.

## **Heating Equipment Bonus Program**

The WPS Territory-wide Heating Equipment Bonus program is an enhancement to the standard Focus Efficient Heating & Cooling (EHC) program. The objective of the WPS Heating Equipment Bonus program was to increase the market share of high-efficiency furnaces with electronically commutated motors (ECMs) and modulating boilers within the WPS service territory.

Focus designed the program to address the hypothesized financial barriers, specifically the incremental costs for purchasing high-efficiency furnace and boiler equipment (assessed at \$700 for ECM furnaces and \$1,000 for boilers). To overcome this market barrier, the WPS Heating Equipment Bonus program provides a heating equipment bonus to participating households, in addition to the cash-back reward provided by Focus. The bonus is provided to offset a greater portion of the incremental cost than that provided through Focus' standard EHC program. Table 4 details the equipment, equipment requirements, and reward amounts promoted through the program.

**Table 4.** WPS Heating Equipment Bonus Program Offerings

Equipment	Requirements	Focus Cash-back Reward	WPS Heating Equipment Bonus	Total Reward
Gas furnace	90% AFUE or greater, variable-speed motor/ECM, and multiple stages of firing	\$150	\$250	\$400
Natural gas hot water boiler	90% AFUE or greater, modulating burner, and outdoor-air reset control	\$400	\$200	\$600

It is important to note that in addition to these program rebates, Wisconsin customers were also eligible to receive an additional \$200 from the State Energy Efficient Appliance Rebate Program (SEEARP) for both the high-efficiency ECM furnaces and the high-efficiency boilers. Customers could receive a rebate through the SEEARP in addition to Focus and/or WPS offerings. The SEEARP, funded by the Federal American Recovery and Reinvestment Act funds, was closed on May 6, 2010, as funds were expended.

The WPS Heating Equipment Bonus program provided outreach to participating contractors and distributors through marketing materials and in-person outreach from Focus staff. The program also provided participating contractors with cooperative advertising funds to promote the program and advertise the incentives.

### **Heating Equipment Bonus Program Methodology**

As part of this program project, evaluators completed a program database analysis to identify any potential impacts of the WPS programs' enhancements over the Focus program, particularly in terms of increased participation and/or savings. Additionally, the team completed a process evaluation of the program to assess the degree to which the increased incentives offered through the WPS Heating Equipment Bonus program influenced the installation of ECM furnaces and boilers.

As part of the process evaluation, the team completed qualitative interviews with 26 (out of approximately 1,100) contractors that were either associated with Focus ECH participants and/or WPS Territory-wide Heating Equipment Bonus participants. The evaluation team also surveyed 280 (out of approximately 17,000) program participants, stratified by territory (WPS and the rest of the state) and measure received (furnace with an ECM and boiler).

The evaluation employed a quasi-experimental (cross-sectional and longitudinal) approach to the study design and analysis.

### **Key Findings from the Heating Equipment Bonus Program Evaluation**

Unlike the HPWES Increased Incentive Program, the WPS Heating Equipment Bonus program exceeded its participation goals. The program achieved 310 kW, 1,356 MWh, and 171,610 therms representing 150 percent of its kW, 145 percent of its kWh, and 369 percent of its therms goals. This performance was comparable to kW and kWh goals and was significantly higher than the therms goals achieved by the standard Focus EHC program in 2010 (164 percent, 147 percent, and 134 percent, respectively).

The PSC and WECC decided to discontinue the Heating Equipment Bonus program for 2011. Although the program exceeded its goals, the PSC and WECC did not believe there was sufficient evidence that the additional WPS incentive for the ECM furnaces was increasing market share. As discussed within this section, the evaluation also did not find evidence that the increased bonus



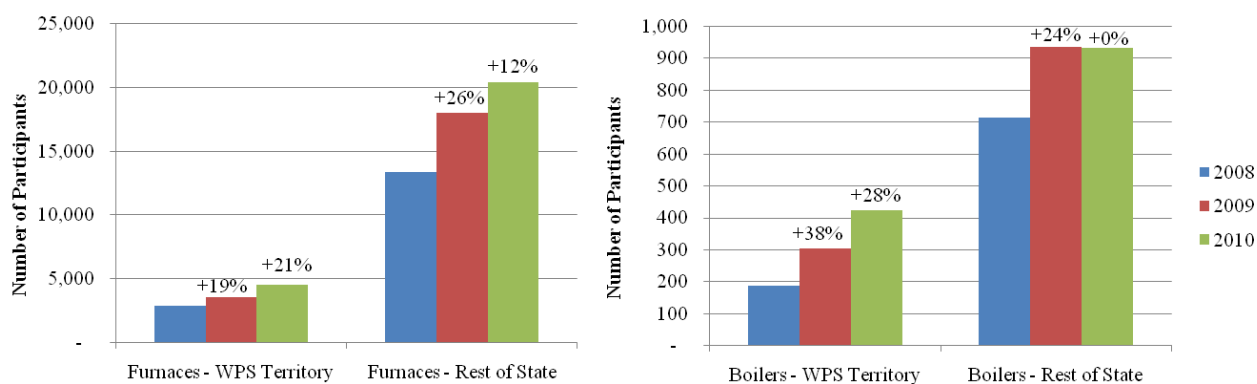
increased the sales of high-efficiency furnaces. The high-efficiency ECM furnaces contributed to electric savings (ECM is the major measure), which was in line with the performance of the Focus territory as a whole.

The evaluation did find some evidence that the program was making a difference in the sales of high-efficiency boilers, which are first-cost barriers to a greater degree than high-efficient ECM furnaces. One finding that supports this case is that the WPS Territory-wide program exceeded its therms goals by over 300 percent, compared with the standard Focus EHC program exceeding its goals by half of that. The natural gas boiler was the primary driver of the therms savings.

The remainder of this section provides more details from the results of this WPS Territory-wide Heating Equipment Bonus program evaluation.

**Program impact on participation rates.** A comparison of the WPS and Focus participation rates indicates that the program itself may not be responsible for the high participation rate for ECM furnaces. The increasing trend in purchases of high-efficiency furnaces with ECMs was similar between the WPS territory and the rest of the state.

However, the boiler participation data indicates that the WPS Heating Equipment Bonus program increased the sales for modulating boilers more than it did for furnaces (Figure 4). The number of high-efficiency boilers rebated in the WPS territory in 2010 exceeded program participation from 2009, whereas the number of boilers rebated in the rest of the state experienced a plateau.



**Figure 4.** Heating Equipment Bonus Furnace and Boiler Participation Trends and Percent Change in WPS Territory and the Rest of the State

The marked difference in uptake in boiler incentives indicates a potential influence of the rebate on purchases of high-efficiency boilers. This increase could be due to the high initial cost for the program-qualifying boilers. Any incentive that helps bring down the initial cost helps customers.

**Level of influence of the incentive on participants' decisions to install equipment.** Following the premise that first costs are a barrier to installation of high-efficiency equipment, the distinguishing element of this program from the standard Focus program is the increased incentive offered to participants within the WPS territory. Therefore, central to this evaluation was an assessment of the influence of the incentive on customers' decisions.

As discussed above, an analysis of the program database indicates that the sales of high-efficiency ECM furnaces and boilers have increased and that they have increased to a greater extent in the WPS territory when compared with the rest of the state. This study assessed the influence of the rebate from the customers' perspective using a cross-sectional analysis of WPS and non-WPS program

participants. These responses are based on self-report, and while we recognize there could be bias in the self-report process, we would expect the bias to be consistent between the two territories.

Counter intuitively, participants that received the WPS bonus were less likely than participants that only received the standard Focus EHC incentive to say that the bonus influenced their decision on the selection of the program-qualifying equipment (Table 5). WPS bonus incentive recipients were almost twice as likely as those in the non-WPS territory to indicate the available rebates had no influence on their selection of program-qualifying equipment. The mean influence reported by furnace purchasers outside of the WPS territory is higher than the influence reported by those that received a WPS bonus incentive for their furnace (based on a 0 to 10 scale where 10 is “significant influence”).

The boiler recipients’ perception of the influence of the rebates was similar between the two territories. And, although the incremental cost of the boiler is reportedly higher than the incremental cost of the furnace, the influence of the rebate for the boilers was the same as for the furnaces reported by non-WPS participants.

Supporting this data, WPS participants more often said that they were just as likely to purchase program-qualifying equipment if the rebate had not been available. Again, the WPS furnace respondents differ in the analysis, with the responses from non-WPS furnace purchasers and all boiler purchasers indicating similar levels of influence of the rebate on their decisions. There could also be contractor influence (e.g., their ability to “up-sell”) influencing these results.

However, we also see from Table 5 that WPS purchasers were somewhat less likely than the non-WPS participants to indicate that they would have purchased the equipment at that time (differences are not statistically significant at the 90 percent confidence interval). This is true for both furnaces with ECM motors and boilers—although more so for the furnaces.

**Table 5.** Likelihood of Purchasing Equipment without Financial Assistance

	Non-WPS Furnace		WPS Furnace		Non-WPS Boiler		WPS Boiler	
Just as likely to purchase program-qualifying equipment	63.4%	(n=71)	71.0%	(n=69)	62.1%	(n=74)	63.0%	(n=62)
Respondent would have purchased a furnace/boiler without any rebate at the same time	88.4%	(n=69)	80.3%	(n=66)	84.6%	(n=65)	71.1%	(n=59)

Contractors do not necessarily agree with customers’ perspectives that the incentive is not an influential component of the program. WPS contractors interviewed believe the additional bonus made it easier to sell program-qualifying equipment. In fact, they said that they would like to see the program expanded outside of the WPS territory. These contractors believe it is easier for customers to justify the cost of the equipment with the extra bonus. As one contractor indicated, it is a “no brainer” for customers in the WPS territory to purchase high-efficiency equipment.

The fact that participants do not recognize the influence of the incentive on their purchasing decisions, whereas contractors believe the incentive is influential, indicates a disconnect in participants’ perceptions of program influence. Although the participants may not recognize the influence of the incentive on their purchasing decisions, they also do not fully recognize the impact the incentive had on their decision—if it was included in the contractor’s bid or used by the contractor to promote a specific efficiency level of equipment.

The modulating boilers were mentioned by several contractors as still being extremely costly and not affordable, even with the extra bonus. The combined Focus and WPS boiler rebate is \$200 more than the rebate for high-efficiency furnaces with ECMs. Still, these contractors saw a need for increased

incentives for the high-efficiency boilers in order for them to have more success in up-selling to high-efficiency modulating boilers.

**Other influential factors: the Federal Tax Credit and SEEARP.** While monetary rebates were important to selling high-efficiency equipment, contractors believed the federal tax credit (worth 30 percent of the project, up to \$1,500) was the most important factor driving sales. Contractors were unsure of how their sales of high-efficiency furnaces and boilers will be affected when the tax credit is no longer available. Participants also rated the level of influence the tax credit had on their decision-making processes fairly highly. However, participants said the tax credit was only slightly more influential than the program rebate, whereas contractors thought the tax credit played a much higher role in participants' decisions than the program incentives.

When reviewing the program results, we also need to consider the confounding effects of the SEEARP rebates that were available in 2010. SEEARP provided rebates for the same equipment as the WPS Heating Equipment Bonus program. The SEEARP rebates clearly influenced a rapid push in the market to purchase high-efficiency HVAC equipment. This push may have significantly influenced the sales cycle by accelerating households' purchases so that they could receive all three rebates. Therefore, in the evaluation we also included the assessment of the influence of the rebate in participants' decisions.

The evaluation attempted to disentangle the influence of the different incentives participants could have received (Focus, WPS Territory-wide, and SEEARP), and how those incentives pushed customers toward the high-efficiency purchase. Not surprisingly, the financial offerings are increasingly more influential in participants' purchasing decisions when they build upon each other. To truly test the influence of the WPS rebate it would be ideal to be able to employ a study design where no other external influences could drive the trends.

**Other influential factors: the contractors.** As with most supply-side programs, consumers rely on the contractors' recommendations when purchasing HVAC equipment. This is not surprising as contractors are the first point of contact for most participants and the primary means of awareness of the program (mentioned by over two-thirds of program participants).

Contractors believed that a significant portion of their customers were not aware of the program prior to their interactions with the contractor. Of the eight WPS contractors that answered this question, six contractors indicated that less than half of their customers were aware of the program. (Note that the surveyed population was small; therefore, these results should be viewed qualitatively.)

Therefore, it is not surprising to see that the participants rated the influence of the contractors fairly highly on their decision to install high-efficiency equipment. Table 6 presents the mean influence of the rebates, tax credit, and contractor on participants' decision to purchase the equipment. Participants' influence ratings regarding the contractors were significantly higher than the financial incentives. The difference was most extreme for those that purchased furnaces in WPS territory and the non-WPS boilers.

**Table 6.** Mean Scores for Influence on Decision to Purchase Equipment

Influence Category	Non-WPS Furnace		WPS Furnace		Non-WPS Boiler		WPS Boiler	
	Mean	n	Mean	n	Mean	N	Mean	n
Mean influence of rebates	6.6	72	5.4	70	6.4	74	6.2	64
Mean influence of tax credit	7.0	57	5.7	58	6.4	50	6.3	51
Mean influence of contractor	7.4	70	6.7	69	7.9	74	7.0	62

## **Tying Together the Conclusions**

Focus designed the HPWES Increased Incentives and Heating Equipment Bonus program in an attempt to provide deeper savings within the WPS territory, either through greater penetration of high-impact measures within a home or across the eligible population. They hypothesized that first cost was an initial barrier to participants' decisions to install the recommended equipment. They also attempted to address the supply-side need through increased information and outreach to trade allies. If successful, these programs would have been expanded to the statewide Focus program.

The performance of the two programs included within this paper varied considerably. The HPWES Increased Incentives program did not come close to meeting its goals, whereas the Heating Equipment Bonus program far surpassed its goals. But the evaluation did not find that the lack of progress for the HPWES Increased Incentives program, nor the significant achievement of the Heating Equipment Bonus program, was due entirely to the sufficiency of the incentives offered to participants. Rather, there were a number of external influences that affected participation.

First, we saw in these program evaluations that the trade ally market plays a significant role in customers' decisions. With this in mind, it is necessary to continue to impress the importance of adequately reaching out and providing information to participating (and even nonparticipating) trade allies. One change Focus is making to their HPWES Increased Incentives program is to provide greater education and outreach to their contractors, including providing tools and techniques for encouraging participants to meet program requirements.

Additionally, we cannot ignore the impact external influences have on program performance. The residential evaluations of the past few years have been particularly interesting given the influx of federal funding within the residential market to promote energy efficiency. These evaluations found that all the programs working together are most influential in promoting high-efficiency. Unfortunately, the availability of these alternate funding sources hindered the evaluation's ability to concretely assess the effectiveness of the increased incentives offered through the WPS territory-wide pilots. The impact of the recessed economy, while an important component of program performance, was not assessed in this evaluation.

Methodologically, the evaluation was strengthened by the quasi-experimental (longitudinal and cross-sectional) evaluation techniques. In particular, access to the program data across all territories over a number of years provided an unbiased market assessment of program progress and allowed the team to identify whether performance within 2010 for WPS participants differed as a result of the increased incentives. There was no compelling evidence that the increased incentives alone promoted deeper savings or quicker penetration of high-efficiency equipment.

Also, it is important not just to recognize the impact the program is having on participants' decisions, but also its impact on the practices of the contractor market and their perceptions. It was interesting to note where contractors' perceptions varied considerably from participants' perceptions. Self-response bias is undoubtedly a concern for studies such as these, but capturing both perspectives helps to mitigate that issue.

Moving into the next program year, the WPS Territory-wide HPWES program is being continued, but only within the pilot territory. Neither program introduced elements that were unique enough, or produced sufficient additional benefits, to expand statewide.

Are incentives important? Yes, of course. But setting the right incentives for the market, understanding the impact of other monetary and non-monetary influences on program performance, and establishing a sound methodology to assess all of the above, is far more important than simply infusing a program with more funds.