

Final Report

**Process Evaluation
of the Residential Smart Saver[®]
HVAC Program in Ohio and Kentucky**

**Prepared for
Duke Energy**

139 East Fourth Street
Cincinnati, OH 45201

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Submitted by

Nick Hall, Dave Ladd,
and Johna Roth

Subcontractor:

Matthew Joyce

TecMarket Works

Oregon WI 53575
(608) 835-8855



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Executive Summary

The key findings and recommendations identified through this evaluation are presented below. The evaluation includes information derived from qualitative interviews with program managers and implementation vendors, as well as through qualitative interviews with trade allies. Survey analysis arises from separate surveys of trade allies and residential customer participants.

On August 7, 2013 in Case 12-665 the Ohio Commission issued the following finding of fact (49) and order (50):

(49) Sixth, Evergreen recommends that Duke's future evaluation work should rely on primary data collected from Ohio customers and be completed as close as realistically possible to the program year being evaluated. Duke replies that its evaluations do rely on primary data collected from Ohio customers, with the timing dependent on program participation and approval of cost recovery. Duke notes that it has not always been possible to align the evaluation with a single calendar year.

(50) The Commission finds that Evergreen's recommendation is reasonable and should be adopted, although we note that it appears that Duke is already making efforts to comply with the recommendation to the extent feasible. (emphasis added)

As indicated in the record Duke Energy has begun working to comply with that recommendation by the Independent Evaluator for future reports to the extent feasible. However at the time of the August 2013 order Duke Energy had already filed evaluation plans as required under Commission Rules 4901:1-39-04 and 05 that govern program years 2012 and 2013. These evaluation plans were included in the update filings of May of 2012 and 2013 in Cases 12-1477 and Case 13-1129, as well as the new portfolio filing case 13-0431. Given Duke Energy's filed EM&V commitments and a desire to produce evaluation work "as close as realistically possible" to the program year being evaluated it must be appreciated that full compliance with this recommendation will be challenging in work already scoped and fielded before August 2013. Indeed many of the sampling plans and field studies were complete before the order issued in August of 2013. The Commission clearly understands this timing constraint as evidenced in their choice of wording, "to the extent feasible." Moreover, Duke Energy has run preliminary analyses of results with Ohio only data as well as sample augmented with Kentucky data. While there is some drop in precision, the precision for this process evaluation report are as follows:

Evaluation Component	Ohio n	Kentucky n	Precision of OH/KY Combined, as Reported	Precision of OH Results, if Kentucky Data were to be Removed
Participant Surveys	136	25	90% +/- 6.4	90% +/- 7.0

Key Findings from the Management Interviews

- The Smart Saver Residential HVAC program is a mature, well-run program with a robust and well-informed trade ally network that spans Duke Energy's service territory in Ohio and Kentucky. Program design is well considered and provides financial incentives at the moment of highest influence in order to encourage the adoption of more efficient equipment.

- The transition from the previous third party vendor to GoodCents was achieved without interruption of daily operations. The partnership between Duke Energy and GoodCents is strong, and GoodCents' depth of experience in HVAC program administration is readily apparent in the active engagement of trade allies in the field, as well as in the smooth functioning of rebate processing and call center activities.
- Despite the well-run nature of the program, its participation numbers are not meeting Duke Energy's goals. During 2012, the program drew 2,978 rebate applications toward a target of 4,057, representing 73% of goal and an average of 65 measures per week. Year-to-date performance appeared to be slightly lower for 2013 with the trade ally network delivering 1,596 rebate applications at an average of 53 measures per week by June 30, 2013 toward an annual goal of 4,260 (37%).
- The Ohio program goal for 2012 was set at 3,397 applications, while the actuals were 4,036, representing 119% of goal for the year and an average of 88 measures per week. For 2013 the goal is 3,562 applications with year to date performance of 1,739 applications during the same time period. This represents 49% of the annual goal and an average of 58 applications per week.
- The 2012 Kentucky program goal was set for 1,385 rebate applications for qualifying equipment. Actual performance achieved 621 rebate applications, representing 45% of goal, with an average of 14 measures per week. The 2013 goal is set for 1,459 rebate installations. As of June 30, 2013 the program had delivered 298, representing 20% of goal with an average of 10 measures per week.
- Reasons for this level of performance were not specific, but may include: less federal tax credits which in previous years were supplementing the Duke Energy rebates, the January 1, 2013 elimination of the gas furnace rebates in Ohio, and in Kentucky lower than anticipated heat pump sales due to fuel switching to gas furnaces due to their cheaper perceived operating costs.

Key Findings from the Trade Ally Interviews

- While trade allies are very satisfied with the program and eager for it to continue, they offered an extensive list of observations regarding areas for improvement.
- The most significant areas needing improvement focused on the level of detail required on the rebate applications and the rigor with which even minor clerical errors cause applications to be rejected.
- Trade allies also expressed concerns about the program practice of sending notifications about errors and rejections directly to customers without first allowing the trade ally sufficient to provide them an opportunity to rectify the situation.
- Rebate levels are generally considered appropriate as they are. Although several trade allies did request higher incentives. Many trade allies doing business in Ohio requested that furnace rebates be reinstated, even if at higher efficiency levels. Others requested new rebate offerings for additional types of equipment, including other heat pumps, mini-splits, high efficiency boilers, and programmable thermostats.
- Wait times for most rebate checks fit within the program's advertised four to six week timeframe. The majority of trade allies find the wait times acceptable. A few examples of longer wait times were noted, but these seem to have occurred during the 2012 transition

phase when rebate applications were being sent to the former third party vendor and then forwarded to GoodCents.

- Overall trade allies are happy with the program and they report that they would sell fewer high efficiency units if the program were terminated. They generally consider the program's rules to be reasonable business requirements that must be observed in order to obtain the incentives.

Key Findings from the Trade Ally Survey

- Among the trade allies surveyed, a near majority (47%) filed less than 20 rebate applications per year, while 20% of trade allies filed 100 or more per year, including one trade ally that filed 1,302 rebate applications. The median number of applications filed was 20. Numerous trade allies indicated that their rebate volume had declined since the rebates for gas furnaces in Ohio had been eliminated.
- Trade ally estimates showed that roughly 60% of their customers were replacing failed units versus 40% replacing still functioning units.
- Forty three percent of trade allies estimated that approximately one in four of their customers had heard of the Smart Saver program before it was discussed at the point of sale. The mean estimate of customer awareness was 28%.
- Nearly one third (32%) of trade allies rated the rebates influence on customer purchases of high efficiency equipment as an 8, 9, or 10. Other factors considered more influential than the rebate included: the overall purchase price, the trade ally's reputation, the unit's efficiency rating, potential monthly bill reductions, and equipment operating costs.
- Although trade ally representatives and phone support providers scored well in the qualitative interview section, among survey respondents the timeliness and responsiveness of GoodCents staff were cited as reasons for dissatisfaction.
- Nonetheless, overall trade allies report that they are satisfied with the program, with two thirds (67%) rating the program an 8, 9 or 10, and rendering a mean satisfaction score of 7.8. Difficulty of the new paperwork was the primary reason cited for diminished scores.
- A small number of trade allies reported that the program caused more hassle than it was worth and hence they or others in their companies do not actively promote the rebates.

Key Findings from the Participant Surveys

- Most customers first learned about this program from a trade ally (78.9% or 127 out of 161), and trade allies filled out (80.1% or 129 out of 161) and submitted (80.7% or 130 out of 161) rebate forms for the majority of surveyed participants.
 - See *Awareness of the Smart Saver Program and Receiving Rebates for Participation in Smart Saver* on pages 74 and 76.
- Only 13.0% (21 out of 161) of surveyed customers sought more information about the program; the most common way these customers sought more information was to go to the Duke Energy website (47.6% or 10 out of 21). Only three customers (1.9% of 161) reported having questions that remained unanswered. While participating in the program, 6.2% (10 out of 161) contacted Duke Energy with questions, and only one reported that their questions were not answered (10.0% of 10 contacting Duke Energy, or 0.6% of 161 total respondents).

- See *Gathering Information about Duke Energy's Smart Saver Program* on page 74.
- Fewer than one survey participant in ten (8.7% or 14 out of 161) has had problems receiving their rebate, and another 1.9% (3 out of 161) say they have not received their rebates yet¹. Though the specifics vary from person to person, generally the problems are described as delays in receiving rebates due to delays in submitting paperwork or getting paperwork approved. Some blame "communication issues" between trade allies, Duke Energy and/or the customer.
 - See *Receiving Rebates for Participation in Smart Saver* on page 76.
- Customers give this program high satisfaction ratings, with averages ranging from 8.2 to 8.5 on a 10-point scale for specific aspects of the program, and an overall mean satisfaction rating of 8.8 for the program overall. On average, these customers also rated their satisfaction with Duke Energy at 8.5 out of 10. However, customers who received rebates for installing new heat pumps are significantly less satisfied with the amount of the rebate (7.9 out of 10) than customers who installed central air conditioners (8.6 out of 10).
 - See *Customer Satisfaction with the Residential Smart Saver Program* on page 80.
- Customers in Ohio were also asked to rate their satisfaction with the program on a five-point scale: 91.2% (124 out of 136) gave ratings of "somewhat" or "very" satisfied, while only 1.5% (2 out of 136) reported being "somewhat" or "very" dissatisfied with the program.
 - See *Program Satisfaction Ratings in Ohio* on page 92.
- Customers were asked what they liked most and least about this program. More than two-thirds (70.8% or 114 out of 161) mentioned the incentive rebate as their favorite thing, followed by the ease of participation (11.8% or 19 out of 161) and the program incentive allowing the purchase of a better unit (10.6% or 17 out of 161). A large majority of customers could not name a least favorite aspect of the program (77.6% or 125 out of 161), while the most frequently-mentioned least favorite things are that the rebate is too small (6.8% or 11 out of 161) and waiting too long for the rebate (5.0% or 8 out of 161).
 - See *Customer's Favorite and Least Favorite Aspects of Smart Saver* on page 92.
- When asked what could be done to increase interest and participation in this program, the most frequent recommendations from customers are to increase general advertising (36.0% or 58 out of 161), include more information with monthly bills (28.0% or 45 out of 161), increase involvement with trade allies (16.1% or 26 out of 161) and offer a larger incentive (11.2% or 18 out of 161).
 - See *Improving Participation in Residential Smart Saver* on page 94.
- More than a quarter of surveyed customers (29.8% or 48 out of 161) report that they have taken additional energy efficiency actions inspired by participating in the Smart Saver HVAC program. The most common activities include using more efficient lighting (7.5%

¹ The evaluation team and Duke Energy have confirmed that these customers have all been issued rebate checks.

or 12 out of 161), upgrading other appliances (6.2% or 10 out of 161), upgrading windows and doors (6.2% or 10 out of 161) and adding insulation (5.6% or 9 out of 161). Overall, the average rating of influence of the program on these actions is 4.6 on a 10-point scale, indicating moderate influence.

- See *Energy Efficiency Actions and Upgrading Other Appliances* on page 96.
- A third of surveyed customers (34.8% or 56 out of 161) have also added other new appliances to the household in the past year. The most common installations for customers who received program rebates for central air conditioning installations are furnaces (26.3% or 21 out of 80), while for customers who received rebates for installing new heat pumps the most frequently installed other appliances are refrigerators (8.6% or 7 out of 81), water heaters (7.4% or 6 out of 81), clothes washers (6.2% or 5 out of 81) and stoves/ovens (6.2% or 5 out of 81).
 - See *Energy Efficiency Actions and Upgrading Other Appliances* on page 96.

Process Evaluation Recommendations

Below is a list of key recommendations. For a full set of evaluation recommendations see the Evaluation and Findings Summaries at the end of each section of this evaluation.

Key Recommendations from the Management Interviews

- Consider separating or eliminating the EMC fan requirement. Doing so would help to increase the installation of high efficiency heat pumps and air conditioners since it would eliminate lost opportunities where customers are willing to upgrade air conditioners or heat pumps, but not willing to pay to upgrade still functioning furnace blowers. This would be particularly helpful in areas where oil or natural gas-fired furnaces are prevalent.
- Consider test piloting a tiered rebate system whereby higher efficiency equipment garners higher financial incentives.
- The GoodCents web portal provides online self-service tools that can reduce the number of trade allies phoning the call center, however trade ally adoption of the web portal appears low. Therefore we recommend increasing trade ally awareness of web portal and its features. We also encourage the installation and use of web tracking software, such as Google Analytics, to monitor its internet traffic.
- Consider boosting residential customer awareness of the program via news stories, direct marketing and educational outreach at home shows and other events where homeowners congregate.
- Monitor the newly implemented internet-based feedback system to provide additional insights directly from customers and trade allies as those survey results become available.

Key Recommendations Provided During Trade Ally Interviews

The recommendations immediately below are based upon direct feedback from trade allies.

- Simplify the rebate application forms, or educate trade allies regarding which details on rebate applications are required, which are optional, and why requested information is necessary.

- In light of the fact that the serial numbers from the old units are difficult to obtain, consider eliminating that requirement, or at least marking that data field as optional.
- Consider using the customer's service address as the primary means of identification instead of the account number, since obtaining the account number leads to privacy concerns, clerical mistakes, and delays caused by customers not providing the required information.
- If AHRI numbers are required then provide an easier-to-use alternative to the AHRI website such as a chart or database that makes finding the requisite information easier to obtain.
- Modify the layout of the printed forms to provide larger writing spaces for data entry.
- Allow extensions to the rebate application deadline upon request.
- Trade allies felt they were not given an opportunity to redress errors and rebate rejections prior to GoodCents sending notification letters directly to customers. Therefore, increase trade ally education about the current method for redressing errors and extend the response time for a trade ally return phone call before letters are mailed.
- Increase the information provided on the web portal regarding the information needed to approve rebate applications, and the estimated arrival date of rebate checks.
- Batch trade ally checks together and mail them in a single envelope.
- Educate trade allies about where they can download a digital PDF rebate application forms.
- Consider expanding rebate coverage to other technologies.

Key Recommendations Provided During Trade Ally Surveys

The recommendations immediately below are based upon survey findings and trade ally opinions.

- Simplification of the rebate application— or at least better explanations about what is required and why— may help to improve satisfaction among trade allies. It may also increase rebate levels since a small number of trade allies reported discontinuing their participation due to their dislike of the new paperwork.

Introduction and Purpose of Study

Summary Overview

This document presents the process evaluation report for Duke Energy's Residential Smart Saver[®] HVAC Program as it was administered in Ohio and Kentucky. The evaluation was conducted by TecMarket Works and subcontractor Matthew Joyce.

Summary of the Evaluation

This document presents the process evaluation report for Duke Energy's Smart Saver HVAC Program as it was administered in Ohio and Kentucky. The evaluation was conducted by TecMarket Works and Matthew Joyce. The interview and survey instruments were developed by TecMarket Works and Matthew Joyce. The customer survey was administered and analyzed by TecMarket Works. Matthew Joyce conducted in-depth interviews with program managers and trade allies, as well as the trade ally survey.

Evaluation Objectives

This report's objectives are to document program operations and provide insights to help Duke Energy and other interested parties to evaluate the program as it is currently administered. The report evaluates current processes, considers trade ally perspectives, and assesses participant feedback in order to diagnose issues and present recommendations for changes intended to increase energy savings, improve operational efficiencies, and enhance trade ally and customer satisfaction.

Description and Purpose of Program

The Duke Energy Residential Smart Saver HVAC program encourages the installation of higher efficiency heating and cooling units in new and existing homes. Residential customers receive rebates of \$200 on qualified purchases, with an additional \$100 incentive going directly to the participating HVAC contractor or dealer. New home builders who install qualified equipment are eligible for rebates of \$300.

Duke Energy contracts with a third-party vendor, GoodCents, that is responsible for daily administration of the program, including HVAC dealer and contractor recruitment, call center operations, rebate application processing and payments, and quality assurance. Participating trade allies discuss the program with Duke Energy customers who are considering the purchase of a replacement air conditioner or heat pump. At the point of sale, the trade ally presents the \$200 incentive for selecting the high efficiency equipment option. After the trade ally installs the qualifying unit, they fill out a rebate application form and submit it with a copy of the invoice and a certificate from the American Heating and Refrigeration Institute (AHRI). GoodCents processes the paperwork and distributes the respective \$100 and \$200 checks by mail within 45 days. New home builders can opt to keep their \$300 incentives or pass them along to the home buyers.

Program Eligibility

Equipment

New equipment eligible for a Smart Saver rebate includes²:

- Air conditioners (AC) of 14 SEER³ or greater with an electronically commutative (ECM) fan on the indoor unit
- Heat pumps (HP) that are at least 14 SEER with an ECM fan on the indoor unit
- Geothermal heat pumps that are 10.5 SEER with an ECM fan on the indoor unit

These efficiency standards comply with the US Department of Energy's standards for split air conditioning systems and heat pumps set for an effective date of January 1, 2015.

The program does not mandate pricing requirements, nor does it specify the brand of HVAC equipment. However, it does limit the types of systems permitted under program rules. These include: heat pump or AC split systems, HP or AC single package (self-contained) systems, and geothermal heat pumps, including direct geo exchange systems. Ineligible systems include: through-the-wall room HP or AC, window HP or AC, mini split and multi split HP or AC, portable HP or AC, evaporative AC, natural gas or oil furnace, or boilers.

Customers

Incentives for qualifying equipment are available to Duke Energy electric customers with active accounts who reside in individually metered single family homes, condominiums, townhomes, duplexes or manufactured homes on permanent foundations. Apartments, mobile homes, and multi-family homes (three or more units) are not eligible.

Trade Allies

Qualifying trade allies must complete a one-page program application form and provide a copy of a current certificate of insurance and a tax identification number via an IRS W9 form, and a Kentucky contractor's license number if they operate in that state. Once registered, trade allies can file rebate applications in more than one Duke Energy service territory provided that they comply with licensing rules for that state.

Customers who opt to self-install a qualifying HVAC system are also eligible for the incentive, if they complete the trade ally registration form and submit the required documentation.

Program Goals and Participation

While the Smart Saver HVAC Program has been operational in Ohio and Kentucky for many years, a new vendor, GoodCents, undertook administration of daily program operations beginning on February 15, 2012. For the purposes of this evaluation, February 15, 2012 is considered the starting period for the management section of the evaluation.

² The Smart Saver program offers additional incentives for HVAC maintenance and building envelope retrofits under a separate regulatory filing.

³ Seasonal Energy Efficiency Ratio (SEER)

For the time period of February 15 to December 31, 2012, Duke Energy set an Ohio program participation goal of 3,397 rebate applications for qualifying equipment. Actual program performance during that time achieved 4,036, representing 119% of goal for the year and an average of 88 measures per week. During that same time frame the goal for Kentucky was 1,385 applications, while the actuals were 621, representing 45% of goal, with an average of 14 measures per week.

For the 2013 calendar year the program participation target for Ohio was 3,562 applications with year to date performance of 1,739 applications. This represents 49% of the annual goal and an average of 58 applications per week. In nearby Kentucky, the goal was set for 1,459 qualifying rebate installations during the same time period. As of June 30, 2013 the program had delivered 298, representing 20% of goal with an average of 10 measures per week. Year over year performance for Ohio and Kentucky are shown in the table below.

Table 1. Annual Program Performance toward Goals

State	Year	Goal	Actuals	% of Goal	Average # measures per week
OH	Feb 15 – Dec 31, 2102	3,397	4,036	119%	88
OH	Jan 1 – Jun 30, 2013	3,562	1,739	49%	58
KY	Feb 15 – Dec 31, 2102	1,385	621	45%	14
KY	Jan 1 – Jun 30, 2013	1,459	298	20%	10

Methodology

Overview of the Evaluation Approach

The process evaluation consists of three elements: management interviews, trade ally interviews, and participant surveys.

Study Methodology

Management Interviews

Between June and September of 2013, TecMarket Works interviewed three representatives from Duke Energy, including the product manager, assistant product manager, and marketing coordinator. Three representatives from GoodCents were also interviewed, including the sales manager, rebate director, and the director of business solutions, who oversees call center operations subcontracted to ProCore Solutions.

In order to identify any implementation issues and discuss opportunities for improvement, these interviews considered:

- program design,
- execution,
- operations,
- trade ally activities and perspectives,
- interactions between staff, trade allies, and customers,
- data tracking and transfer methods, and
- personal experiences.

Interview guides were used to ensure a full and complete battery of questions were addressed with the interview subjects. Sample interview guides are shown in *Appendix A: Management Interview Instrument*.

Trade Ally Interviews

During August and September of 2013 TecMarket Works interviewed ten participating Residential Smart Saver trade allies from Ohio and ten from Kentucky. Interviews were conducted with company representatives who identified themselves as the person within their company who has the most experience with the program. Job positions included: owner, general manager, office manager, sales manager, and lead salesperson.

These qualitative interviews covered program operations and changes over time, aspects of trade allies' involvement, incentive levels, covered technologies, program requirements for participation, and the program's influence on high efficiency unit sales from the trade allies' perspectives. Interviews were conducted by telephone and lasted between 15 and 45 minutes. The interview guide can be found in *Appendix B: Trade Ally Interview Instrument*.

Trade Ally Survey

To supplement the qualitative interviews, TecMarket Works also completed a quantitative study via a telephone survey of 80 Residential Smart Saver trade allies selected at random from a

combined list of 313 participating Ohio trade allies and 51 Kentucky trade allies. The survey instrument can be found in *Appendix C: HVAC Trade Ally Survey Instrument*.

Participant Surveys

This survey focused on customers who, according to program tracking records, received a rebate from Duke Energy for the purchase of a new, more efficient central air conditioner or heat pump between the dates of January 1, 2012 and June 28, 2013.

Data collection methods, sample sizes, and sampling methodology

Management Interviews

Interviews and follow up exchanges were conducted by phone with six staff members from Duke Energy and GoodCents. Conversations ranged from half an hour to two and half hours. The interview instrument can be seen in *Appendix A: Management Interview Instrument*.

Trade Ally Interviews

Ten Residential Smart Saver trade allies were interviewed by telephone in August and September of 2013 from a list of 313 participating Ohio trade allies and 51 Kentucky trade allies. Those interviewed represented a spectrum of participation levels, ranging from between one and 1,302 rebate applications per year. A copy of the interview questions can be seen in *Appendix B: Trade Ally Interview Instrument*.

Trade Ally Survey

Eighty Residential Smart Saver trade allies were randomly selected for a telephone survey from a list of 364 trade allies whose businesses are based in Ohio and Kentucky. Those interviewed represented a spectrum of participation levels, ranging from between one and 1,302 rebate applications per year. A sample survey can be seen in *Appendix C: HVAC Trade Ally Survey Instrument*.

Participant Surveys

A sample list of 13,990 customer records was provided by Duke Energy (participants' rebated installation dates range from January 2012 to June 2013). After removing duplicate records, opt-outs, non-residential accounts and records with missing contact information, the sample size was 5,424 dial-able records (4,666 records for Ohio and 758 records for Kentucky). Surveys were conducted by telephone.

Number of completes and sample disposition for each data collection effort

Management Interviews

Between June and September of 2013, six out of six management interviews were completed representing a 100% completion rate.

Trade Ally Interviews

From a combined list of 364 records, 20 trade allies were contacted for qualitative phone interviews in August and September of 2013.

Trade Ally Survey

From a combined list of 364 records, 80 trade allies were contacted for a quantitative phone survey in August and September of 2013.

Participant Surveys

From the sample list of 5,424 usable records, 1,593 participants were called between July 23 and August 14, 2013, and a total of 161 usable telephone surveys were completed yielding a response rate of 10.1% (161 out of 1,593). Of the 161 completed interviews, 81 were conducted with participants who received rebates for installing new heat pumps, and 80 were conducted with participants who received rebates for new central air conditioning.

Summary of the Evaluation Data

The process evaluation findings presented in this report were analyzed using interview and survey data obtained from participants and stakeholders in the HVAC program as presented in Table 2 below.

Table 2. Evaluation Date Ranges

Evaluation Component	Start Date of Participation	End Date of Participation	Dates of Data Collection	Dates of Analysis
Duke Energy and Vendor Interviews	Feb 2012	Sept 2013	June - Sept 2013	Aug – Sept 2013
Trade Ally Interviews	Feb 2012	Sept 2013	Aug – Sept 2013	Sept 2013
Trade Ally Surveys	Feb 2012	Sept 2013	Aug – Sept 2013	Sept 2013
Participant CAC Surveys	Jan 3, 2012	July 5, 2013	July 23 – Aug 12, 2013	Aug – Sept 2013
Participant Heat Pump Surveys	Jan 3, 2012	July 5, 2013	July 24 – Aug 14, 2013	Aug – Sept 2013

Expected and achieved precision

Participant Surveys

The survey sample methodology had an expected precision of 90% +/- 6.4% and an achieved precision of 90% +/- 6.4%.

Management Interviews

Program Operations and Oversight

The Duke Energy Smart Saver HVAC Program is a joint effort between Duke Energy and GoodCents, a third party vendor from Atlanta, GA. Duke Energy provides the overall administration of the program, including strategic guidance, vendor oversight, utility-based marketing to residential customers, rebate payment auditing, and overall quality assurance.

Trade ally relations and day-to-day implementation is contracted to GoodCents, which handles all operational functions including: trade ally outreach and recruiting, trade ally marketing materials, call center support for trade allies and customers, rebate application processing, quality assurance, and payment processing.

Although the Smart Saver HVAC Program has operated in Ohio and Kentucky for years, Duke Energy opted to switch third party vendors after an extensive RFP process. GoodCents was awarded the contract in 2011, and on February 15, 2012 it assumed operational control of all program activities in Ohio, Kentucky, Indiana, North Carolina, and South Carolina. Only those activities in Ohio and Kentucky are discussed within this evaluation.

Duke Energy Marketing

Because new HVAC equipment purchases happen infrequently and because new sales are often prompted by malfunctions of existing equipment, Duke Energy does not devote significant budget to marketing the program directly to its residential customers. The utility's website offers information about the program and provides a toll free phone number to a GoodCents-staffed call center that provides additional information.

The program's initial web page is reachable within two clicks of the home page via standard website navigation. The program's main web page is visually simple with a single graphic of a programmable thermostat and six primary links leading to additional information. The first link leads to more information about the \$200 customer incentive for new equipment installations, while two links provide further information on other rebates for an HVAC Health Check (\$50) and Insulate and Seal (\$100-\$250), which are not covered in this evaluation⁴. Additional links take site visitors to web pages discussing energy efficiency tips, how to find a participating contractor, and how to become a trade ally.

The HVAC Install web page provides multiple tabs with a program overview, eligibility requirements and program rules, frequently asked questions, and still deeper links for more information regarding heating costs and comparisons and an online energy savings calculator.

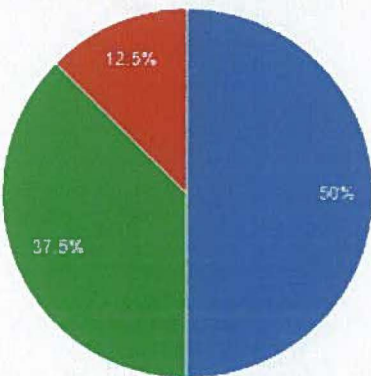
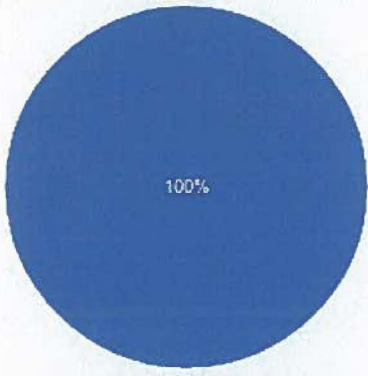
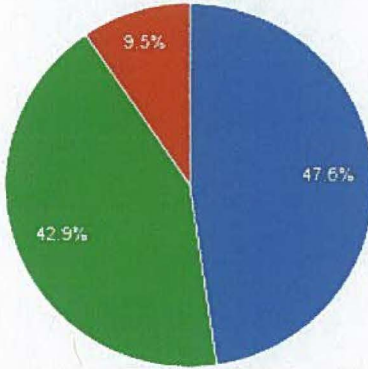
Duke Energy's website tracking data reveals that the Kentucky Smart Saver HVAC pages had 1,006 visitors and an average time of 35 seconds on the page during the interval between June 1 and December 31, 2012 when records were tracked. Between January 1 and September 20, 2013 the program had 4,373 web page visits for an average of 55 seconds on the page. During 2012, referrals from Duke's Energy online services (OLS) accounted for half (50%) of all page visits,

⁴ The evaluation of the Residential Smart Saver Additional Measures program will be conducted separately.

while direct entry of the URL (38.7%) and organic search (via Google, Yahoo, etc.); 12.5% accounted for the remainder. In 2013 direct entry of the program URL accounted for 100% of site visits. This finding seems improbable, but is accurate, according to Google Analytics website tracking records.

During 2013, Ohio web page visits totaled 13,818 with an average of 55 seconds per page. Traffic sources included direct entry of the URL (47.6%), organic search (42.9%), and referrals from OLS (9.5%). No website tracking data was provided for 2012. The table below provides a graphic comparison of traffic sources.

Table 3. Website Traffic Sources

KY Web Traffic June 1 to Dec 31 2012	KY Web Traffic Jan 1 to Sept 20, 2013												
<p>■ referral ■ direct ■ organic</p>  <table border="1"> <caption>KY Web Traffic June 1 to Dec 31 2012</caption> <thead> <tr> <th>Source</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>referral</td> <td>50%</td> </tr> <tr> <td>direct</td> <td>37.5%</td> </tr> <tr> <td>organic</td> <td>12.5%</td> </tr> </tbody> </table>	Source	Percentage	referral	50%	direct	37.5%	organic	12.5%	<p>■ direct</p>  <table border="1"> <caption>KY Web Traffic Jan 1 to Sept 20, 2013</caption> <thead> <tr> <th>Source</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>direct</td> <td>100%</td> </tr> </tbody> </table>	Source	Percentage	direct	100%
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Source	Percentage												
direct	47.6%												
organic	42.9%												
referral	9.5%												

Trade Ally Network

Overview

Duke Energy’s network of trade allies— state licensed and registered HVAC dealers and contractors—serves as the primary promotional vehicle for the Smart Saver HVAC Program. Trade allies act as the initial point of contact for Duke Energy residential customers who are interested in purchasing new HVAC equipment. The trade allies introduce Duke Energy

customers to the program as they educate homeowners about the benefits of selecting high efficiency equipment and the financial incentives offered by their utility to reduce the customer's overall purchase cost and thus encourage adoption. The Duke Energy rebate is often presented in conjunction with other financial incentives, such as rebates offered by manufacturers and any state and federal tax credits. If the customer opts to purchase qualifying equipment, then after the installation has been completed, the trade ally prepares the rebate application on behalf of the customer and sends it to GoodCents for processing and payment. Once approved, the customer will receive \$200 and the trade ally will earn \$100. Checks are mailed within 45 days of receiving the rebate applications.

The nature of using trade allies to present the program to Duke Energy's customers influences program freeridership because in most instances customers are unaware of the rebate and undoubtedly some percentage of customers would opt to acquire the more efficient equipment regardless of the financial incentive offered by Duke Energy. As a result, freerider analysis focuses on the actions of the trade ally and what they report their customers would likely elect to buy without the rebate. This is discussed in more detail in the *Trade Ally Survey* section of this evaluation.

Transition to New Vendor

As noted earlier in this evaluation, GoodCents assumed operational control of Duke Energy's previously existing program on February 15, 2012. This handoff from the previous third party vendor presented opportunities and challenges during the transition period.

One new opportunity was the chance to change the program's trade ally record keeping. The previous third party vendor provided GoodCents with the existing program records, including a flat file containing the contact information of all trade allies that had previously registered to participate in the program. Duke Energy took the opportunity to update these trade ally contacts by requiring trade allies to reregister to participate in the program by providing up-to-date contact information and a clear indication regarding whether the trade ally incentive checks were to go to the company or directly to the employee. The utility also changed the sign-up rules. Now in addition to the previously required a tax identification number via an IRS W9 form, the registrants must provide proof of insurance, as well as a Kentucky contractor license number, if they operate in that state.

This decision necessitated that GoodCents contact every name on the list to inform them of the changes. As a result GoodCents reached out to all viable contacts via mail, website notices, call center scripting updates, as well as email, telephone, fax, and personal visits by GoodCents trade ally representatives. The messaging welcomed the trade allies to the new program, informed them of the need to reregister, noted the new terms and conditions, explained the new rebate application process, and provided directions for how to obtain and submit the new forms.

Duke Energy originally anticipated that this transition phase would take 60-90 days, but trade ally compliance was slower than originally scheduled. Both Duke Energy and GoodCents reported that the majority of trade allies made the transition readily enough, but among the remainder there was confusion and resistance, particularly amidst those who continued to ignore repeated notices delivered each time they submitted a rebate application to the old third party vendor's address or fax number. As a result the transition period took until December 31, 2012,

which was when Duke Energy and GoodCents stated that they would no longer accept rebate applications from trade allies that had not reregistered for the program. The end of the year was deemed a reasonable cut off. Any trade allies who did not comply were thereafter considered inactive in the program. Any subsequent rebate applications submitted by inactive trade allies were rejected with a notification being sent to both the trade ally and the Duke Energy customer explaining that the rebates would remain in a "pending" status until the trade ally registered for the program.

GoodCents also provided Duke Energy with other enhancements for the program, including a web portal for trade ally use, an expanded trade ally web search tool, and increased quality assurance field staffing (see *Quality Assurance*).

The trade ally web portal, found at <http://www.dukeressmartsaver.com>, provides a number of online services to assist trade allies who are working with the Smart Saver program. Once the trade allies register for the program, they can use the web portal to peruse program requirements, find training materials, order marketing collateral, submit rebate applications, and review the status of previously submitted applications. They can also update their contact information, tax ID, or insurance documentation, and apply to participate in the other Smart Saver programs: Health Check and Insulate and Seal. The web portal also offers announcements, newsletters, and updates regarding changes in the program. The web portal is maintained by GoodCents. Unlike the Duke Energy website, the vendor does not track web traffic statistics. Nonetheless, awareness of the portal and use by trade allies appears to be limited despite the rich set of tools provided and the potential to save time and money through their adoption.

Another enhancement to the program was an updated internet search tool featured on Duke Energy website. The tool enables customers to enter their zip codes and then search for a list of participating trade allies in their areas who participate in Duke Energy's Smart Saver HVAC rebate programs. This provides a helpful service to customers and marketing exposure for trade allies.

Trade Ally Recruiting and Relationship Management

Now that the trade ally registration records have been cleaned and updated, Duke Energy reports that there are 313 Ohio trade allies and 51 Kentucky trade allies participating in the program as of July 31, 2013. A number of these trade allies operate in both states. Some Indiana trade allies also operate in these territories, although they not included in the statewide tallies since for tracking purposes each business is only counted once based upon its official address. As no accurate initial tally of trade allies existed at the time GoodCents took over program operations, it is impossible to determine how much the program has grown since February 15, 2012. Duke Energy and GoodCents representatives estimate that they have added approximately 16 new trade allies to the Ohio network and 2 or 3 to the Kentucky network. This represents a 5% growth rate, which seems a reasonable estimate given 1) the culling of inactive participants, 2) the maturity of the program and 3) the existing market penetration Duke Energy had obtained during previous years of operation.

To maintain Duke Energy's existing trade ally relationships and to establish new ones, GoodCents employs a staff of six trade ally representatives (TARs) to manage the program throughout Duke Energy's Indiana, Ohio, Kentucky, North Carolina, and South Carolina

territories. Of these, one TAR operates in Ohio, while another covers Kentucky. Both these TARs also serve portions of Duke Energy's Indiana service territory.

The TARs engage with HVAC manufacturers, distributors, trade associations, and other groups to obtain lists and otherwise identify new potential trade allies. TARs then use email, phone, and in-person visits to reach out to prospective and existing trade allies to promote the program and encourage prospects to join the network. Strategy dictates that the TARs focus first on contacting those prospective HVAC firms with the greatest market reach, but they also engage with smaller businesses that may only have the potential to file a few rebate applications each year. As a part of that process, TARs educate the would-be trade allies about why selling energy efficiency helps their business and how partnering with Duke Energy helps to distinguish them from their competitors. Among the talking points frequently mentioned to prospective trade allies are:

- Easy to join,
- No contract required,
- No fees to participate,
- Increased visibility via listing on the Duke Energy website,
- Improved image and increased customer trust by being affiliated with Duke Energy,
- Differentiation from contractors who are not part of the Duke Energy trade ally network,
- Direct dealer payments that offset costs of filing rebate paperwork,
- Knowledge of and access to multiple Duke Energy rebates,
- The ability to make a larger sale by reducing the overall cost for customers to obtain a higher efficiency unit, and
- The advantage of bundling the Duke Energy rebate with other manufacturer rebates and government tax incentives for even greater savings.

Signing up for the program can be accomplished via a paper application or an online submission process. Upon receipt, GoodCents enters the data, confirms licensing and insurance requirements, and performs a background check on the applicants. Approvals occur every Monday. The trade ally's contact information is added to the searchable listing on the Duke Energy website at the same time. Access to the trade ally web portal can be initiated as soon as the new member has been approved.

Once new companies join the trade ally network, the TARs ensure that they understand the program and the incentive requirements, as well as the proper process for submitting rebate applications for approval and payment. If necessary, TARs can guide them through the program paperwork and help to resolve any difficulties that arise during the rebate process or during quality assurance activities in the field.

To ensure that the TARs can assist the trade allies in all technical and business aspects of the Duke Energy program, GoodCents requires that its TARs obtain and hold certifications from 1) the Building Performance Institute (BPI), a trade association for building science professionals, and 2) North American Technician Excellence, Inc. (NATE), a non-profit certification program for the HVAC industry. Likewise, GoodCents also trains its TARs in sales and marketing so they can advise and coach their respective trade allies to have more successful point of sale conversations with residential customers.

In the rare event of a trade ally or customer complaint, TARs must respond within one business day and resolve the issue within three business days. No exceptions to this policy have occurred, and all TAR activities were reported by Duke Energy and GoodCents to be operationally effective. TecMarket Works considers this level of support to be an exemplary best practice for this field.

While each TAR is assigned a specific geographic region, they attend weekly group teleconferences or live meetings with the Duke Energy product manager and their supervisor in order to receive training updates, discuss recent developments in their territories, and review progress toward individual and team goals regarding monthly and annual targets for "Duke Energy market stimulation."

GoodCents TAR annual goals for 2013 in Kentucky included a combined 1,459 rebate applications for replacement heat pumps and air conditioners, and 45 trade ally contacts (although this contact goal also includes potential conversations regarding the separately filed but jointly managed HVAC Health Check and Tune and Seal programs). As of June 30, 2013 trade allies had submitted 298 applications, representing 20% of the year end goal. Between February 15 and December 31, 2012, trade allies submitted 621 applications toward a GoodCents target of 1,385, representing 45% of program goal.

For Ohio, the 2013 annual goals were set at 3,562 combined rebate applications for replacement heat pumps and air conditions and 77 trade ally contacts. As of June 30, 2013, 1,739 applications had been turned in. This represented 49% of the annual goal. During 2012, a total of 4,036 applications were submitted, which is 119% of goal.

Applications & Rebates

GoodCents processes rebate applications for Duke Energy's service territory across five states: Indiana, Ohio, Kentucky, North Carolina, and South Carolina.

Rebate Applications

The rebate application process requires trade allies to provide a two-page application form, matching certificate obtained from AHRI, and a copy of the customer invoice.

PDF copies of the rebate application form can be downloaded from the program's online trade ally web portal and from an in-text link on the Smart Saver website found at <http://www.duke-energy.com/indiana/savings/hvac-install.asp>. The rebate application form can be filled out electronically or it can be printed out and filled in by hand.

The rebate applications forms collect more information than merely 1) the trade ally's contact information, 2) the customer's name, service address and contact information, and 3) the customer's Duke Energy account number. In addition to this basic information, which is collected on the first page of the application, the GoodCents form also requires the trade ally to provide a second page of detailed information regarding the new unit being installed, the old unit being removed, and specific details regarding the customer's home characteristics. The required equipment details include the make, model, and serial number of the new and used units, as well

as the tonnage, efficiency ratings, and AHRI numbers of both systems. Also required are household characteristics including the type of home (single family, home/condo, etc.), year of construction, square footage, number of stories above grade, foundation type, duct location, and number of HVAC systems in the home. A sample rebate application form is shown in *Appendix D: Sample Rebate Application Form*.

The additional information collected on the forms is used by Duke Energy and GoodCents for a variety of reasons, including better understanding changing market trends such as gauging the likelihood of early HVAC equipment replacement. However according to the trade allies that we spoke with, the reasons they need to supply this level of detail are less than clear to many of them, which has caused complaints among some participants. These findings are discussed in more detail in the *Rebate Applications and Associated Paperwork* section below.

Trade ally rebate applications must be accompanied by a copy of the customer invoice. The Duke Energy program does not specify that invoices need to be signed by customers nor that the invoices must be paid at the time the paperwork is submitted. Nonetheless, TecMarket Works identified some confusion about this among GoodCents staff and among some of the trade allies that we spoke with. As a result, some trade allies reported that they were spending extra time gathering customer signatures; waiting for customer payments before filing for the rebates; and in some instances falsely marking unpaid invoices as having been paid when the paperwork was submitted. These things can be eliminated or at least significantly diminished if the program's invoice requirements are clarified and communicated to GoodCents staff and participating trade allies.

Rebate Processing and Payment

Trade allies can submit their applications and supporting documents online via the web portal, email, fax, or mail. Although GoodCents did not provide actual data regarding trade ally preferred avenues for submitting their application paperwork, the GoodCents rebate director estimated that 80% of them use the fax number, while 15% use email and 4% opt for mail. The remaining 1% utilizes direct online submissions via the web portal, which is the only method that bypasses the need to manually transfer the data from the forms to the GoodCents system.

To keep turnaround times short, GoodCents has three days to enter the submitted applications into its system. For each new application, the rebate processing team 1) verifies the Duke Energy account number and customer name, 2) confirms that the AHRI certificate matches the serial number and model number on the invoice, and 3) that the system meets the program requirements.

Once entered into the GoodCents system, each application is categorized as 1) complete and qualified, 2) missing information, or 3) does not qualify. Complete and qualified applications are bundled together for payment. Incomplete applications result in "status pending" letters to trade allies and customers, while non-qualifying applications generate rejection letters. In each case, the letters state the issue that requires attention, suggest the necessary remedy, and set a deadline of 45 days for resolving the matter. The rebate processing team posts status updates on the trade ally web portal and makes phone calls in an effort to obtain the missing information and rectify the situation as quickly as possible.

During the 2012 transition period, program rules allowed trade allies to submit rebate applications to the old fax number and mailing address of the previous vendor. These applications were logged by the former vendor and then bundled and mailed to GoodCents on a weekly basis. As a result, 14 or more extra days of processing and mailing time could be added for handling these applications. If applications were emailed to the old vendor, those digital application forms were automatically redirected to GoodCents. With this extra step eliminated as of January 1, 2013, rebate processing times are now generally less than two weeks.

Under the current rebate processing system, GoodCents batches all approved rebate applications and sends them to the Duke Energy program manager for review on a weekly basis. By agreement, the utility has five days to approve the applications. After which, GoodCents authorizes Wells Fargo to cut and mail checks to customers and trade allies. Service level agreements (SLA) require that GoodCents issue checks within 10 days of determining that the application is complete and qualified. However, this 10-day period includes the five days that Duke Energy has to conduct final approval.

Since the end of the transition period when all new rules were fully in effect, check payment times have dropped markedly. In May 2013, the number of days between the day the application was submitted to the day the rebate check was mailed averaged 15.9 days. That average went down to 13.8 in June of 2013, and dropped again to an average of 12.1 days in July of 2013. Actual processing times for many trade allies and customers are often 10 days or less, since these average times combine the time it takes to process all applications that are submitted, including the extra time that it takes to conduct quality assurance inspections (which can take up to 30 days). Once the time for quality assurance is deducted from that average, GoodCents has met the time-to-mailing requirement "most of the time." It has consistently met or bested its SLA for application processing.

While these processing times are longer than the average of eight days under the previous program vendor, the current overall wait times for payment are noticeably shorter than the 45 day payment timeframe advertised to trade allies and customers. While most customers seem satisfied with these timeframes, GoodCents indicates that its field and phone representatives have heard complaints among some trade allies who were familiar with the faster payment times in the past. This finding is discussed in more detail in the *Rebate Checks* section below.

Quality Assurance

The program maintains multiple layers of quality assurance. As discussed above, the first level applies to accuracy of the rebate submissions. If an application is incomplete or incorrectly filled out, it is placed in "pending" status while the trade ally is contacted to rectify the situation. However, even complete applications for qualifying equipment are subject to further review.

Program rules stipulate that prior to payment all participating trade allies are subject to periodic onsite quality control inspections of the equipment to ensure compliance. In practice, GoodCents consistently inspects the first five applications that every new or re-registering trade ally submits. After trade allies complete that probationary phase their rebate applications are pooled together with those from all other trade allies and a random sample of 5% of all rebate applications are inspected in each state service territory. This quality assurance applies at the level of the

participating HVAC company. It is not tracked at the level of individual sales people and HVAC installers.

According to GoodCents records, during the month of May 2013, Ohio trade allies filed for 223 air conditioners and 151 heat pumps, totaling 374 applications. Of these GoodCents inspected 19, which is exactly 5%. In Kentucky trade allies installed 34 air conditioners and 20 heat pumps for a total of 54 applications. Of these 19 (15%) were inspected. This is higher than 5% quota due to the need to inspect the first five units for probationary companies.

To handle this volume of inspections, GoodCents staffs four quality control inspectors throughout Duke Energy's five state service territory, including one inspector based in Indianapolis and another in Cincinnati. These NATE and BPI certified inspectors visit the customer's home to ensure that a qualifying unit has been installed and that the make, model, and serial number match the application. Inspectors are given 30 days to conduct their site visit, although most are completed sooner than that. GoodCents indicates that their inspection success rate is "98-99%" with the vast majority of noncompliance issues arising due to a mismatch or typo on the paperwork. On a very rare occasion, the paperwork may have been filed before the unit was actually installed. If an installation does not pass the quality control inspection, the trade ally is notified. They then have 30 days to submit the correct paperwork or otherwise remediate the problem and request another inspection. If the inspection fails again the trade ally would be placed on program probation and receive additional program training. No contractors have been suspended since GoodCents began administration of the program.

While Duke Energy retains the option to conduct its own quality assurance testing, the product manager has not felt the need to do so. However, the utility does take customer satisfaction seriously. To that end, in May of 2013 it initiated a voluntary satisfaction survey, whereby customers are invited to provide feedback on the program via an internet-based form. At the time of the process evaluation interviews, only a handful of responses had been submitted so analysis of the data was not yet possible.

Call Center Operations

A single dedicated toll free phone number provides call center support for all participating trade allies and customers in Duke Energy's five service territories. Upon answering calls, customer service representatives (CSRs) first identify the program and then seek to determine if the caller is a customer or a trade ally. With this established they commonly field frequently asked questions about how to complete the application form, qualifying equipment, incentives offered, and the status of rebate payments. For rebate status questions the CSRs can check the GoodCents rebate database which is updated daily. For more specific inquiries regarding rebate application issues, the questions are referred to the rebate process team at GoodCents.

Although GoodCents maintains overall contractual responsibility for trade ally and customer contact activities, actual call center operations are subcontracted to ProCore Solutions of Marietta, GA. The transition from the prior call center provider to ProCore Solutions occurred simultaneously with the transition to GoodCents. On February 15, 2012 the previously established toll free phone number was transferred to the new operational unit. Both Duke

Energy and GoodCents report that the transition was seamless from the point of view of inbound callers.

Because the program changed very little in the transition, ProCore's CSRs were provided with help files and well proven scripts developed under the previous call center provider. The CSRs also received advance training regarding not only for the program specific measures and requirements, but also a primer on residential energy building science, the comfort and whole house benefits of each measure offered, and the increased savings opportunities for implementing multiple measures.

Call center service level agreements require 90% of calls to be answered within 20 seconds and an abandon rate of less than 5%. No issues with these metrics were reported. While there is no metric for call handling time, calls average between four and a half to five minutes for English language conversations and one to one and a half minutes for Spanish conversations. No explanation was provided as to why the Spanish conversations were of a noticeably shorter average duration.

All calls are recorded and call quality is carefully monitored by ProCore supervisors, the GoodCents director of business operations, and the Duke Energy product manager, each of whom can access the recordings online. This quality assurance team meets monthly to engage in co-calibration sessions during which each party scores the same call so that results can be compared and qualitative observations standardized. Meanwhile, ProCore and GoodCents monitor additional calls at random. These quality assurance measures have resulted in some changes in scripting and call handling practices, but the improvements have predominantly been in response to issues arising from how to best deal with Smart \$aver's additional measures, which are not being reviewed for this evaluation.

Working Relationships

The Duke Energy product manager indicated he is in daily contact with GoodCents representatives, while formal meetings occur on a scheduled basis. The program's management teams from Duke Energy and GoodCents meet monthly to set strategy, review performance, and adjust accordingly. Call center activities are also reviewed on a monthly basis. While the Duke Energy product manager joins the GoodCents trade ally representative meeting each week to stay abreast of current developments in the field.

The program's online data tracking and reporting systems are updated daily so the Duke Energy product manager can view a snapshot of key performance metrics at any time. Monthly reporting consists of trade ally and customer feedback, and financial reconciliation reports, including which checks have been cashed. Service level performance is also monitored monthly, although it is formally assessed on a quarterly basis.

Overall business relationships and communications are reported to be positive and functional. GoodCents indicates "Duke is fairly open to some of our out-of-box thinking, and we're willing to try different things." Duke Energy states: "Our working relationship is good. We don't always agree, but both companies want a successful program, and we continually work to find how to be aligned."

Evaluation Findings and Recommendations

Evaluation Findings

The Smart Saver Residential HVAC program is a mature, well-run program with a robust and well-informed trade ally network that spans Duke Energy's service territory in Ohio and Kentucky. Program design is well considered and provides financial incentives at the moment of highest influence in order to encourage the adoption of more efficient equipment.

While not without its challenges, the transition from the previous third party vendor to GoodCents was achieved without interruption of daily operations. The partnership between Duke Energy and GoodCents is strong, and GoodCents' depth of experience in HVAC program administration is readily apparent in the active engagement of trade allies in the field, as well as in the smooth functioning of rebate processing and call center activities.

Despite the well-run nature of the program, its participation numbers are not meeting Duke Energy's goals for 2013. Performance during 2012 was stronger, particularly in Ohio which at the time still featured the rebate for high efficiency furnaces throughout 2012. That rebate was eliminated due to changes in funding availability associated with a residential rider for natural gas in Ohio.

Actual performance numbers for Ohio during 2012 show that the program drew 4,036 rebate applications (for air conditioners, heat pumps, AND gas furnaces) toward a target of 3,397, representing 119% of goal and an average of 88 measures per week. Year-to-date performance between Jan 1 and June 30 of 2013 is tracking slower, with the trade ally network delivering 1,739 rebate applications (for air conditions and heat pumps, but NOT furnaces) at an average of 58 measures per week by June 30, 2013 toward an annual goal of 3,562 (49%).

Actual performance numbers of Kentucky indicate that during 2012 trade applies submitted 621 rebate applications (for air conditioners and heat pumps) toward a goal of 1,385, representing 45% of goal and an average of 14 per week. Performance between January 1 and June 30, 2013 showed 298 applications toward a goal of 1,459, which is an average of 10 per week and 20% of goal.

Reasons for the limited performance appear to be manifold. Duke Energy notes that heat pump sales have dropped noticeably in Kentucky as a higher percentage of customers are opting to fuel switch to gas furnaces due to lower perceived operating costs. This was less of a problem in Ohio during 2012 when the program offered rebates for gas furnaces. In both Ohio and Kentucky, challenging economic conditions among residential customers are also causing them to opt for extended equipment repairs rather than equipment replacement. Furthermore, a reduction in federal stimulus dollars for the HVAC market appears to be having a contributory financial effect. On a more limited, but directly controllable level, equipment requirements for an ECM fan may be influencing customer decisions. And trade ally concerns over rebate processing times and confusion regarding paperwork requirements may also be having a small effect.

Recommendations

Upon assuming administration of the program, GoodCents provided a number of notable improvements, including all the tools provided on the trade ally web portal. Likewise, Duke Energy's decisions to update trade ally contact information, track trade ally participation levels, and eliminate the pre-funding process have all increased visibility and enhanced oversight of program transactions. Therefore, the following recommendations should be considered additional suggestions to further improve the program.

- Consider increasing overall program energy savings by eliminating the indoor ECM motor requirement in favor of increased efficiency ratings on the new outdoor equipment.
- Alternately, consider separating the EMC fan requirement. Doing so would help to increase the installation of high efficiency heat pumps and air conditioners since it would eliminate lost opportunities where customers are willing to upgrade air conditioners or heat pumps, but not willing to pay to upgrade still functioning furnace blowers. This would be particularly helpful in areas where oil or natural gas-fired furnaces are prevalent.
- Another option for equipment and incentive changes includes the potential for a tiered rebate system whereby higher efficiency equipment garners higher financial incentives.
- The nature of the HVAC marketplace is such that the effectiveness of the rebate amounts offered by the program is influenced by shifting economic conditions and the additional financial offsets of supplemental incentives offered by the federal government, manufacturers, other utilities, and the trade allies themselves. Therefore, TecMarket Works encourages close monitoring of this context in order to adjust rebate offerings as necessary to achieve program energy savings targets while maintaining overall cost effectiveness.
- The trade ally web portal provides participating HVAC contractors and dealers with a foundational set of tools that can not only simplify their interactions with the program, but also lower program administration costs by reducing the number of trade allies phoning the call center to check the status of rebates and eliminating the need to manually enter application data by using the online submission system. However, trade ally adoption levels of the web portal appear to be low. Therefore we recommend that GoodCents TARs widely promote use of the web portal among trade allies. We also encourage the installation and use of web tracking software, such as Google Analytics, in order to monitor internet traffic patterns and the volume of the trade allies visiting the website, since such insights may provide opportunities for further improvements.
- Confusion regarding the erroneous need for trade allies to submit paid or signed customer invoices can be eliminated through increased clarification and communication about the specific requirements for program paperwork.
- While the program is designed to work directly with trade allies in order to provide the highest degree of influence at the point at which customers are making their purchasing decision, other opportunities for heightened awareness and interest are also possible.

Therefore, Duke Energy may consider increasing its marketing and educational outreach to residential customers, either via direct marketing, at events where home owners congregate, such as home and garden shows, or through news stories or guest columns in print and digital media.

- We also encourage the program management team to look to the newly implemented internet-based feedback system to provide additional insights directly from customers and trade allies as those survey results become available.

Trade Ally Interviews

During August and September of 2013, TecMarket Works conducted phone interviews with participating Smart Saver trade allies, including 10 each in Ohio and Kentucky. Those interviewed identified themselves as the person within their company who has the most experience with the program. Job positions included: owner, general manager, office manager, sales manager, and lead salesperson.

Topics of these qualitative interviews covered program operations and changes over time, aspects of trade allies' involvement, incentive levels, covered technologies, program requirements for participation, and the program's influence on high efficiency unit sales from the trade allies' perspectives. Interviews lasted between 15 and 45 minutes. The interview guide can be found in *Appendix B: Trade Ally Interview Instrument*.

While feedback regarding the program was positive overall, all the trade allies that we interviewed found at least one area for improvement and most of them provided multiple examples. Areas for improvement included: the complexity of the rebate applications, consistency of enforcement, timing of payment checks, the service level of trade ally representatives, incentive levels, and equipment covered by the program. The results of these interviews are reported below.

Rebate Applications and Associated Paperwork

The rebate applications and associated paperwork were by far the largest source of trade ally complaints about the Smart Saver HVAC program. While detailed feedback is provided below, one central point resounds throughout: trade allies do not understand or appreciate why they are being asked to provide the level of detailed information required during the rebate application process. This lack of understanding fosters resentment and, in some extreme cases, a refusal to participate in the program. Therefore, in addition to making any specific changes as may be dictated by the below comments, TecMarket Works suggests that at a minimum, Duke Energy and GoodCents mount an effort to educate trade allies about which details are required, which are optional, and why the requested information is necessary. This educational effort alone may well help to alleviate a majority of trade ally complaints.

The Rebate Application Form

The size of the data entry boxes on the rebate application form caused a number of trade ally complaints. Below are statements quoted from the interviews.

- *The paper forms need to be bigger since the boxes are too small to fill out.*
- *The forms are poorly designed and should be redone.*

To rectify this situation a number of trade allies suggested that the program provide blank PDF documents that permit data entry. While such a blank PDF form can be downloaded from the trade ally web portal and the Duke Energy website, this trade ally was unaware of its existence, as were others that we spoke with during interviews and the survey discussed in *Trade Ally Survey* section below.

- *They should make the forms be digital PDFs. They're easier to fill out, read, save, and transfer.*

Required Information on Application Form

Feedback regarding the type and amount of information required on the form was extensive. It fell into two primary categories: HVAC-specific information and customer-specific information regarding their account numbers and home characteristics. Concerns ranged from challenges with the impracticality of locating serial numbers and other identifying information from the old units that are being replaced to issues obtaining customer account numbers and details regarding the home's age and its square footage. In some cases, even though a trade ally installed a qualifying unit, customer noncooperation resulted in no rebate application being filed. Representative quotes are shown below.

HVAC-Specific Information

A repeated issue of consternation among trade allies is the requirement that they provide the serial number and other identifying information on the old unit.

- *It's not practical to find and provide the old unit information. Our removal guys are task oriented when they're ripping them out. They're not thinking about paperwork and probably never will.*
- *The paperwork stinks. I try to be complete and accurate, but sometimes I just can't get the information they want. The markings on the old units are often faded beyond recognition.*
- *It used to be so easy. You just certified what you installed. Now they want the old equipment model/serial number and SEER rating. On something 30 years old, we often can't find that. Sometimes that number is literally not readable on a unit that old. Now they want the square footage on the house, how old the house is, and the duct work location. I don't know why they need all that information.*
- *They seem to ask for a lot of information without explaining the context of why they need it. We used to get \$300 for furnaces and another \$300 for AC. Then at the end of the year they stopped the furnace rebates so we stopped filling out that part of the paper work. But then we started getting rejected because we were not including it. Why do we need to include it, if they're not paying the rebate on it?*

Customer Account Numbers and House-Specific Information

- *The new paperwork has been something of an issue. It asks for things like year, heating square footage and stories above grade. We don't know those and they don't make sense. Why should we need to know heating square footage if we are installing air conditioning? My sales people don't keep track of these details.*
- *The old forms were so much easier to fill out. On the new forms we have to get the Duke account number and that delays it. The extra information they ask for slow us up since people don't want to give out the information on square footage and age of their home. I don't see why they need that. It seems intrusive to the customers.*

- *Sometimes homeowners don't fill out their part of the paperwork in time and they want extensions. That makes us look bad, even though it is their fault. You should allow extensions upon request.*
- *Basically it seems like they just decided that the information would be nice to have without considering the impact it has on people's time and their work flow.*

AHRI Numbers

While no trade allies expressed confusion about the program's requirement to provide documentation from AHRI, several did complain about the amount of effort required in order to obtain the requisite details from the AHRI website.

- *The AHRI and serial numbers are impossible to get. They just not available anymore for a 20 year old unit.*
- *AHRI web access is a problem.*
- *It's kind of difficult because I might not have that AHRI system with overall efficiency of the combined equipment.*

Paid Invoices

The erroneous belief that trade allies need to submit paid invoices along with their rebate applications was a point of difficulty for some trade allies. The program does require a copy of invoices, but it does not require the invoices to be paid at the time the rebate application is submitted. This confusion reveals a lack of clarity regarding the actual program requirements for the invoices that must accompany the rebate applications.

- *I can understand the need to send in a copy of the invoice, but our company has problems since we use duplicate forms and the company copy of the form doesn't come out very readable once it's been photocopied or faxed. So it's sort of an on-going problem or trying to make them more readable.*
- *I think the program is fine otherwise. It's frustrating to have to give all the piddly little things on the paperwork. Now we have to mark paid in full, and submit a copy of the invoice that has the pulled serial number written in hand. We wouldn't otherwise bother with those kinds of details just for our business. So the little things they keep coming back with are bothersome and it's become a much bigger job. The process just needs to be simpler.*

General Issues

While not citing specific areas for improvement, several trade allies made general comments about the inconvenience of the amount paperwork required during the rebate process.

- *Information they ask for is more time consuming than necessary. There are so many coordinating pieces that have to come together.*