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Energy Efficiency / Demand Response Plan: Plan Year 4 (6/1/2011-5/31/2012)

Evaluation Report: Smart Ideas for Your Business Custom Program

FINAL

Presented to
Commonwealth Edison Company

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NAVIGANT

Table of Contents

NAVIGANT

List of Figures and Tables

Figures:

Tables:

NAVIGANT

E. Executive Summary

E.1 Evaluation Objectives

ComEd's three-year (2011 – 2013) Energy Efficiency and Demand Response Plan,[1] anticipates that the Custom program will provide 9% of the business portfolio nonresidential energy savings. The goal of this report is to present a summary of the findings and results from the evaluation of the fourth Electric Program Year (PY4) Custom program[2]. The primary objectives of this evaluation are to quantify gross and net impacts and to determine key process-related program strengths and weaknesses and identify ways in which the program can be improved.

E.2 Evaluation Methods

For the PY4 impact evaluation, gross program impact results were developed based on detailed M&V for a sample of 33 projects. The program design and delivery methods did not substantially change for PY4 and so, in accord with the NTG Framework[3], we believe it is appropriate to use the Net-to-Gross (NTG) rate calculated in the PY2 evaluation research. Thus the program falls under the following condition from the NTG Framework: "*Where a program design and its delivery methods are relatively stable over time, and an Illinois evaluation of that program has estimated a NTG ratio, that ratio can be used prospectively until a new evaluation estimates a new NTG ratio.*" Five research activities were conducted in support of the process evaluation: (1) interviews with the program manager and program implementer, (2) interviews with 27 participating trade allies, (3) a quantitative telephone survey with 64 participating customers, (4) a telephone survey with 15 participants in the Smart Ideas Opportunity Assessment and six participants in the Facility Assessment program offerings, and (5) in-depth interviews with five ComEd Account Managers.

E.3 Key Impact Findings and Recommendations

Table E-1 below provides reported ex ante and evaluation (ex post) gross and net savings impacts for the PY4 Custom program. The PY4 Research Findings gross realization rate for energy savings is 0.80 and for peak demand savings is 0.93 (gross realization rate = Research Findings gross / ex ante tracking system gross). For PY4, evaluation verified NTGR of 0.76 is a deemed value derived from PY2 evaluation results[4]. The PY4 Custom program did not meet ComEd's targeted PY4 net savings goal[5] of 28,796 MWh primarily because of low participation rate and also due to lower than expected gross realization rate for energy savings. Combined the Custom and Prescriptive programs did not meet PY4 goals.

[1] Commonwealth Edison Company's 2011 – 2013 Energy Efficiency and Demand Response Plan, pg. 90

[2] The Electric Program Year 4 (PY4) began June 1, 2011 and ended May 31, 2012.

[3] "Proposed Framework for Counting Net Savings in Illinois." Memorandum March 12, 2010 from Philip Mosenthal, OEI, and Susan Hedman, OAG.

[4] Smart Ideas for Your Business Custom Program PY2 Evaluation Report, December 21, 2010.

[5] *ComEd*, Op. Cit., pg. 98

Table E-1. PY4 Savings Estimates

Savings Estimates	Energy Savings (kWh)	Peak Demand Savings (kW)
Ex Ante Gross*	39,369,921	3,084
Ex Ante Net**	29,921,140	2,344
Evaluation Research-Findings Gross	31,436,881	2,858
Evaluation Verified Net	23,892,030	2,172

** Source: Ex ante savings from ComEd tracking system, September 25, 2012*

*** Ex ante net savings include a deemed PY2 net-to-gross ratio of 0.76*

The relative precision at a 90% confidence level for the Research Findings gross impact results is ± 12% for the kWh Realization Rate and ± 20% for the kW Realization Rate.

The PY4 energy gross realization rate of 0.80 is commendable for a Custom program. PY4 gross realization rate results indicate that the smallest projects (stratum 3) (RR = 0.72) realized a lower proportion of their ex ante claims than the largest (stratum 1) (RR = 0.80) and medium projects (stratum 2) (RR = 0.86). The evaluation team hypothesizes that this may be due to program M&V activities being less rigorous for strata 3 projects.

The PY4 energy gross realization rate of 0.80 is lower than the PY3 level of 0.85. For PY4, the impact sample consisted of a significant number of lighting sites i.e., 16 out of the 33 projects in the impact sample, and the gross realization rate for these projects was typically high which generally improved the program energy realization rate. However, the overall program energy realization rate was pushed somewhat lower by the non-lighting projects. This is due to the complexity involved with non-lighting projects. Projects involving non-lighting end uses such as HVAC, Compressed Air and EMCS require a more in-depth technical review and pose greater challenges for the program in terms of deriving accurate savings estimates. For example, these projects often involve varying operating conditions or complex multivariable calculation models. Therefore, overall results suggest, especially among complex projects, that ex ante savings estimates and the program gross impact results could be further improved by enhancing program M&V activities, project technical reviews and calculation methods. Key evaluation findings and recommendations include the following:

Improvements to Ex Ante Savings Estimates[6]

Finding. The evaluation verified savings for projects were reduced relative to ex ante savings in some instances due to errors identified in the program calculations. For example, program calculations for Projects #6076 and #8838 used inaccurate savings normalization methods, Project #11815 used incorrect assumptions and the data analysis for Project #11748 included non-operational periods to represent operating periods.

- **Recommendation.** The program should enhance in-depth technical reviews of assumptions, data analysis and normalization methods used in savings calculations. Such an effort would seek to reduce the frequency of errors and improve impact estimates.

[6] Site-specific data and information reported in this section is limited in some instances in order to protect customer confidentiality.

Finding. In some cases, the project realization rates were affected by the selection of different IPMVP approaches (e.g., calculation methods) used by the program and the evaluation (e.g. Projects #9267, #8115, #8488). Also, for projects where the program used Option C (e.g., utility meter data analysis), the evaluation was not able to clearly identify the reasons for the increase or decrease of realized savings since measure performance can be difficult to isolate in a billing analysis approach. The evaluation team contends that there will be more uncertainty in the resulting savings estimates when Option C is used.

- **Recommendation.** The program should consider using IPMVP Option A or B; retrofit isolation as the primary M&V method instead of Option C (utility meter data analysis), if cost effective. This will improve the certainty in resulting savings estimates.

Finding. For several lighting projects, the programs' estimation of operating hours was found to be inaccurate. For four projects, the program reported operating hours were found to be significantly less (by approximately 50%) than the evaluation verified operating hours. For three projects, the program reported operating hours were significantly greater (approximately 35%) than evaluation verified operating hours. Limited program measurement was conducted to estimate operating hours for lighting projects.

- **Recommendation.** The program should collect additional data to more accurately estimate the operating hours for lighting projects. The program should verify in greater detail if the data collected is representative if typical operating conditions. In cases, where no measurements are performed, thorough interviews with customer contact and also additional facility staff should be conducted to help gather information for estimating operating hours. For lighting controls measures, extended data collection should be considered in order to capture both the pre- and post-installation conditions, and thereby better estimate the operating hour differences associated with controls.

Finding. For lighting projects in refrigerated spaces, the program calculated interactive effects (IE) savings based on deemed values taken from Vermont TRM[7], whereas the evaluation used a customized calculation methodology to estimate savings for these projects. Also, for several lighting projects in conditioned spaces, the program did not calculate interactive savings but the evaluation did.

- **Recommendation.** Since the PY4 program consisted of a significant number of lighting projects it is critical that the program calculations follow a consistent and thorough approach to estimate IE savings for lighting projects. The program should collect site specific data and use customized calculation models rather than using a deemed savings approach.

Verification activities for customer with multiple (store) applications:

Finding. For a customer with multiple (e.g., stores) lighting applications, ComEd verified the installed quantity through review of invoices for each store. In PY4, for this customer with multiple applications (approximately 96) for one of the sampled stores application (Project #10416) the program reported an installation quantity of 428 fixtures which did not match the evaluation verified installed quantity of 292 fixtures.

- **Recommendation.** We recommend that ComEd randomly select a sample (up to 15%) of stores and conduct on-site audits to verify the installed quantities and confirm that the invoices match the actual installed quantities.

[7] Technical Resource User Manual (TRM), Efficiency Vermont, TRM User Manual No. 2009-54.

Baseline Review

Finding. The program selected baseline condition for four replace-on-burnout or normal replacement type projects (Projects #7527, #8263, #9315, and #12679) was adjusted in the evaluation to represent a baseline condition that meets standard (industry/facility) practice, which significantly reduced the total realized savings for these projects.

- **Recommendation.** The program should conduct a thorough review of the pre-existing equipment as part of the baseline selection process. The customer or trade ally provided information should be double checked when possible to ensure that the information provided is consistent with the actual existing conditions.
- **Recommendation.** When selecting baseline for replace-on-burnout (ROB) or natural replacement type projects, the baseline selection should be based on existing code requirements. Illinois currently has International Energy Conservation Code (IECC) 2009 as the commercial energy code. ASHRAE code requirements should only be used in the absence of IECC 2009 code.
- **Recommendation.** In the case of equipment replacements, in the absence of any code, ROB baseline should be selected based on industry/facility standard practice, or minimum efficiency equipment available as a replacement option as a last resort.
    - Facility standard practice is used for baseline selection where the industry standard practice is not clear, or if industry standard practice is less efficient than the pre-existing equipment. Furthermore there should be strong evidence establishing facility standard practice, including consideration of the efficiency level of the pre-existing system or application of corporate standard practice policy. For example, in Project #7527, the facility had pre-existing building controls that failed and therefore, the baseline should have been pre-existing building controls rather than no controls used as the baseline by the program.
    - The program should select minimum efficiency equipment only if there is no clear industry standard practice. e.g., Project #12679, the customer installed a cycling refrigerated dryer. Therefore, the baseline should have been a non-cycling refrigerated dryer consistent with industry standard practice for refrigerated dryers and not a minimum efficiency desiccant dryer selected as the baseline by the program.
    - If the efficiency of the pre-existing equipment is better than the minimum efficiency equipment available as a replacement option, then the program should select the pre-existing equipment as the baseline. e.g., Project #8263, the program selected minimum efficiency inlet modulation air compressor unit as the baseline. However, the customer had a preexisting system that was a more efficient load/unload air compressor unit which should have been selected as the baseline.
    - Note that like-for-like equipment replacements are ineligible for program incentive funding. These include situations where the customer is replacing energy efficient equipment with similar energy efficient equipment as a result of their facility's standard practice.

Peak kW Savings

Finding. The program did not calculate demand savings for five projects in the impact sample. For these five projects with zero ex ante kW impacts, the evaluation calculated ex-post kW impacts totaling approximately 171 kW. Also, for three projects the program calculated kW savings but they were reported as zero ex ante kW savings in the tracking system. For these two projects, the evaluation calculated kW impacts totaling approximately 67 kW.

- **Recommendation.** The program should calculate demand savings for all eligible projects and also ensure that the demand savings are populated consistently in the tracking system. It is also notable that the evaluation-applied ratio estimation approach subsequently precludes these savings from being reported to PJM. This is a significant issue since about 24% of the projects in the impact sample are affected by this issue.

E.4 Key Process Findings and Recommendations

Influence of other programs

Finding: The number of Custom applications has decreased dramatically year-over-year from PY3 (a 60% drop). One reason for this could be that a number of customers were directed to different program offerings such as Commercial Real Estate or Compressed Air. As the Smart Ideas C&I portfolio continues to expand and tailor offerings to the needs of different customer types, fewer customers may participate in the "basic" offerings. Additionally, by nature Custom programs often feed into prescriptive programs. For example, a newer technology could start out as a Custom measure but as the program gets more experience with it and the savings are tested and repeatable the program will often move that measure into the prescriptive program. One example of this for ComEd is Variable Speed Drives (VSDs). Originally all VSD projects were processed as Custom projects and after a number of years the program developed a hybrid Custom/Prescriptive approach whereby the energy savings are based on a deemed algorithm and the incentive is a fixed amount per horse power and is processed as a prescriptive measure. This may not have an impact on the C&I portfolio overall but it does impact the relative performance of the Custom program. The Custom program might look like its participation is decreasing but this is due to cannibalization by other program offerings.

- **Recommendation.** In response the Custom offering is probably the most appropriate venue for ComEd to introduce emerging technologies and thereby expand the reach and offering across all program elements. Emerging "replacement" technologies should be less prone to free ridership, as they represent opportunities for the ComEd Custom program to introduce customers and trade allies to these newer technologies. Conversely, by offering more established technologies the program is exposed to greater potential free ridership.

Lighting Projects

Finding: Lighting continues to dominate Custom program participation with about 77% of the Custom projects completed, but on average lighting projects contribute the smallest per-project kWh savings.

- **Recommendation.** ComEd should try and grow the number of non-lighting projects coming through the Custom program. One approach to consider would be to increase incentives on non-lighting technologies, if cost effective.

Marketing and outreach

Finding: Trade allies remain a very important channel to customers. Both Smart Ideas Opportunity Assessments (SIOA) and Facility and System Assessments (FSA) participants reported that, after receiving the assessment, they often contact vendors for quotes on the projects that are identified and they are less likely to contact their ComEd account manager or other ComEd and KEMA staff. Additionally, ComEd account mangers report that they are likely to hear of projects after the customer has been approached by a trade ally. Approximately one-third (27%) of account mangers interviewed felt that they were very familiar with the trade ally network. Account managers also indicated that they would like to increase their involvement with trade allies.

- **Recommendation.** ComEd could consider ways in which they could strengthen the ties between account managers and trade allies. This could include having more trade allies present at Lunch-and-Learns for the account managers or having account managers attend Trade Ally Basic Training sessions or other trade ally events to familiarize more account managers with the trade ally network.

Technical assistance offerings

Finding: Initial qualitative results seem to indicate that FSA participants are more likely to complete a project after the assessment than SIOA participants; 50% of FSA and 33% of SIOA participants report completing a project reported in the assessment. This could be due to the perceived value of the audit or the fee that screens out customers that are less serious about identifying projects. Often when consumers receive something for free they don't fully appreciate its value.

- **Recommendation.** ComEd may consider charging a nominal fee (far below the $5,000 for the FSA offering) to SIOA participants in order to eliminate customers that do not have any intention of completing projects and thereby establish the value of the audit in the mind of the customer.

1. Introduction to the Program

This evaluation report covers the Custom element of the ComEd Smart Ideas for Your Business incentive program.

The Smart Ideas for Your Business program is a key part of ComEd's overall portfolio of programs in support of 2011-2013 ComEd's Energy Efficiency and Demand Response Plan. ComEd's three-year (2011 – 2013) Energy Efficiency and Demand Response Plan,[8] anticipated that the Custom program will provide 9% of the business portfolio nonresidential energy savings. The program is funded on an annual basis from June 1 to May 31 of each year.[9] Funding in any given program year is limited to that year's budgeted amount and, therefore, incentives are paid on a first-come, first-served basis until the program year's incentive funds are exhausted. It should be noted that the Custom program is administered in conjunction with the Prescriptive program, which allows considerable flexibility to adjust program funding as needed between the Custom and Prescriptive programs.

The net MWh savings goals and budgets for the 2011 (PY4) Custom program are presented in Table 1-1.

Table 1-1. Smart Ideas for Your Business PY4 Planned Savings Goals and Budgets*

Program Element	No. of Participants	Plan Target Net MWh	Plan Target Total Cost
Prescriptive Incentives	2,978	238,251	$38,912,858
Custom Incentives	400	28,796	$6,105,332
Total	**3,378**	**267,047**	**$45,018,190**

Source: Commonwealth Edison Company's 2011 – 2013 Energy Efficiency and Demand Response Plan
**No Savings goals are reported for Net MW in the 2011 – 2013 Energy Efficiency and Demand Response Plan.*

1.1 Program Description

The Commonwealth Edison Company (ComEd) Smart Ideas for Your Business program provides incentives for business customers who upgrade their facilities with energy efficient equipment. This incentive program is available to all eligible, nonpublic, commercial and industrial customers in ComEd's service territory. There were two specific program elements that were available to ComEd customers during electric program year 4 (PY4) under the ComEd Smart Ideas for Your Business incentives program:

Prescriptive Incentives were available for energy-efficiency equipment upgrades and improvements including lighting, cooling, refrigeration, and motors. Incentives were paid based on the quantity, size, and efficiency of the equipment. Incentives were provided for qualified equipment commonly installed in a retrofit or equipment replacement situation.

[8] Commonwealth Edison Company's 2011 – 2013 Energy Efficiency and Demand Response Plan
[9] Program year 4 was in operation from June 1, 2011 through May 31, 2012.

Custom Incentives were available to customers for less common or more complex energy-saving measures installed in qualified retrofit and equipment replacement projects. Custom measure incentives were paid based on the first year energy (kWh) savings. All projects were required to meet ComEd's cost-effectiveness and other program requirements.

Measures that are available through the Prescriptive program are not eligible for Custom incentives. The applicant has the option to apply for a Custom incentive if the entire project involves a combination of prescriptive and custom measures. However, the Prescriptive measures are only eligible for the Prescriptive incentives. The Prescriptive and Custom programs continued into program year 4, with minor changes to Custom incentive levels and rebate options. For PY4, the program offered a performance reward system in order to try and generate increased trade ally participation. The program had two tracks to the reward system.

Technical Service Offerings: In PY4, ComEd introduced two new technical services offerings intended to help customers identify projects. The Smart Ideas Opportunity Assessments (SIOA) includes free assessments conducted by a ComEd engineer during a two-hour site visit. The assessments are free of charge for eligible customers. They are intended to help customers identify the most economically feasible projects, find trade allies that can help customers implement the program, locate incentives for the projects and calculate estimated returns on investment and to help customers complete and submit their application paperwork.

The Facility and System Assessment (FSA) program offering is available for customers with a peak demand of 500 KW or greater. The audit for this program is more comprehensive than for the Smart Ideas Opportunity Assessment and customers are required to use pre-qualified providers. Many of these providers are also Retrocommissioning Service Providers (RSPs). The customers are required to pay a $5,000 fee for the assessment; the $5,000 fee is refunded by ComEd if the customer receives an incentive of $10,000 or greater through the Smart Ideas program.

Additional ComEd program offerings are provided under the Smart Ideas business program umbrella, including retrocommissioning, comprehensive compressed air study, data centers, and new construction services. The Illinois Department of Commerce and Economic Opportunity (DCEO) is responsible for delivering programs to ComEd customers targeted towards public nonresidential buildings such as government, municipal, and public schools.[10] These ComEd and DCEO programs are evaluated and reported separately.

1.1.1 Implementation Strategy

ComEd retained KEMA Services Inc. as its program administrator responsible for day-to-day operations. The Custom program was launched in June 2008. The PA is responsible for all aspects of the program including participant coordination, technical resources, projects applications review process, and technical review for projects in the program.

[10] For more information on the DCEO programs please refer to (www.illinoisenergy.org).

1.1.2 Measures and Incentives for PY4

ComEd's Smart Ideas for Your Business Custom incentive program provides incentive payments for eligible energy efficiency projects. Custom program incentives are intended for less common or more complex energy-saving measures installed in qualified retrofit and equipment replacement projects. Custom incentives are available based on the project's kWh savings, assuming the project meets all program requirements. Incentives are based on the following formula:

- For projects with less than a 5-year life, or for any involving Energy Management System programming, the program pays an incentive of $0.03/kWh.
- For equipment with a 5-year life or greater, the program pays an incentive of $0.08/kWh down to a minimum payback of 1 year and up to a maximum payback of 7 years.
- For Compressed Air projects, the program pays an incentive of $0.05/kWh.

The Custom incentive amounts noted above are applied for the first $200,000 in incentives[11] and then half that amount for the next $100,000 in incentives up to the project cost cap. The project cost cap is defined as follows: Custom project incentives cannot exceed 50% of the total project cost (includes costs of equipment and contractor labor; excludes in-house labor) and 100% of the incremental measure cost. Customers may receive up to $1,000,000 per program year (defined as June 1st through May 31st), per facility, for any combination of Prescriptive or Custom incentives.

1.2 Evaluation Objectives

The following key researchable objectives were evaluated.

Impact Objectives:

- Estimate the program gross impacts
- Estimate the program net impacts
- Assess whether or not the program meets its energy goals? If not, why not?

Process Objectives:

- Examine the program design and implementation
- Assess changes in program participation between PY3 and PY4 for trade allies and customers
- Evaluate the effectiveness of the program design and processes
- Examine the effectiveness of program implementation
- Examine the influence of trade allies in the implementation of PY4 projects
- Examine the usefulness of the information, the potential influence and participant satisfaction with the process of technical service offerings
- Identify barriers to participation for both customers and trade allies
- Evaluate participant satisfaction for both customers and trade allies

[11] This limit was set at $100,000 at the start of the program year (PY4). However, this limit was increased mid-year from $100,000 to $200,000.

2. Evaluation Methods

This section describes the analytic methods and data collection activities implemented as part of the PY4 process and impact evaluation of the Custom program, including the data sources and sample designs used as a basis for the data collection activities.

2.1 Primary Data Collection

The data collected for the evaluation of the PY4 Custom program was gathered via on-site audits and telephone surveys to support impact and process analysis. Table 2-1 below provides a summary of the data collection activities including the targeted population, the sample size, and the objectives of the efforts.

Table 2-1. PY4 Data Collection Activities

Collection Method	Targeted Population	Sample Size Targeted	Sample Size Achieved	Gross Impact	Net Impact	Process
On Site Audit	Program participants	33	33	X	X	
Telephone Survey	Program participants	66	64	X	X (63 surveys only; one participant did not complete NTG survey)	X
In-Depth Interviews	Program administrators and implementation contractor staff	2	2			X
Telephone Survey	ComEd Account Managers	3	2			X
Telephone Survey	Smart Ideas Opportunity Assessment Participant interviews	15	15			X
Telephone Survey	Facility Assessment Participant interviews	10	6			X
Telephone Survey	Participating trade ally interviews	25	27			X

Source: EM&V analysis

2.2 Impact Evaluation Methods

This section describes the analytic methods and data collection activities implemented as part of the PY4 process and impact evaluation of the Custom program, including the data sources and sample designs used as a basis for the data collection activities.

2.2.1 Research Findings Gross Savings Analysis

The objective of the gross program savings evaluation is to verify the veracity and accuracy of the PY4 ex ante gross savings estimates in the Custom program tracking system. To support the gross impact evaluation objectives the PY4 evaluation activities included on-site visits and detailed M&V for 33 projects. The savings reported in ComEd's online tracking system were evaluated using the following M&V steps:

1. Develop a site-specific M&V plan for a representative sample of program projects. Each M&V plan details the data collection and analysis approach to be undertaken, following a careful review of relevant documents stored in ComEd's online tracking system, including the Final Application submittal and the application-based calculations. Sometimes each plan is further refined based on a brief interview with the customer representative over the phone.

2. Implement a site-specific data collection approach for each sampled project. The focus of the data collection was to verify and/or update the assumptions that feed into engineering algorithms of measure level savings. Data collection also included verification of measure installation and that the systems are functioning and operating as planned, and if not then in what way(s) there is variance.

3. Perform on-site measurement or obtain customer-stored data to support downstream M&V calculations. Measurement data obtained from the sites are used to calibrate the analyses, as measured parameters typically have the least uncertainty of any of the data elements collected. Measurement includes spot measurements, run-time hour data logging, and post-installation interval metering. Customer-supplied data from energy management systems (EMS) or supervisory control and data acquisition (SCADA) systems are often used when available. Furthermore, measured data are obtained when available from the PA.

4. Complete evaluation engineering-based estimates of gross annual energy (kWh) and summer peak demand (kW) impact for each sampled project. A site specific analysis is performed for each point in the impact sample. The engineering analysis methods and degree of monitoring will vary from project to project, depending on the complexity of the measures installed, the size of the associated savings and the availability and reliability of existing data. Gross impact calculation methodologies are generally based on IPMVP protocols, Options A through D. At a minimum, the evaluation impact evaluation incorporates the following additional information that may not have been feasible to incorporate in Final Application submittal:
    a. Verification that measures are installed and operational, and whether or not the as-built condition will generate the predicted level of savings;
    b. Observed post-installation operating schedule and system loading conditions;
    c. A thorough validation of baseline selection, including appropriateness of a retrofit vs. replace on burnout claim; and
    d. Development of stipulated and measured engineering parameters that contribute to the impact calculations.

5. Prepare a detailed, site-specific impact evaluation report for each sampled site.

6. Carry out a quality control review of the evaluation impact estimates and the associated draft site reports and implement any necessary revisions.

A verified gross realization rate (e.g., the ratio of the Research Findings gross savings-to-reported tracking savings) was then estimated for the sample, by sampling stratum, and applied to the population of reported tracking savings, using sampling-based approaches that are described in greater detail in Section 4 below. The result is a Research Findings gross savings estimate for the Custom program.

2.2.2 Evaluation Verified Net Savings Analysis

The program design and delivery methods did not substantially change for PY4 and so, in accord with the NTG Framework[12], we believe it is appropriate to use the NTG rate calculated in the PY2 evaluation research. Thus the program falls under the following condition from the NTG Framework: "*Where a program design and its delivery methods are relatively stable over time, and an Illinois evaluation of that program has estimated a NTG ratio, that ratio can be used prospectively until a new evaluation estimates a new NTG ratio.*"

The PY4 Evaluation Research Finding net savings analysis methodology is summarized in Appendix 6.2.1.

2.3 Process Evaluation Methods

Five research activities were conducted in support of the process evaluation: (1) interviews with the program manager and program implementer, (2) interviews with 27 participating trade allies, (3) a quantitative telephone survey with 64 participating customers, (4) telephone survey with 15 participants in the Smart Ideas Opportunity Assessment and six participants in the Facility Assessment program offerings, and (5) in-depth interviews with five ComEd Account Managers. Additional information about process evaluation methods is provided in Appendix 6.2.2

2.4 Sampling

Sampling for the Custom program was completed for Research Findings gross M&V analysis, as well as a telephone survey supporting Research Findings net impact evaluation and the process evaluation.

ComEd's tracking database extract dated 3/29/2012 was used to select 16 M&V sample points. The tracking database extract dated 7/5/2012 was used to select 17 more M&V sample points, for a total of 33. Therefore, a total of 33 M&V sample points were evaluated in PY4. For telephone surveys, 33 sample points were selected using the 3/29/2012 database extract, and 34 additional sample points were selected using the 7/5/2012 database extract.

2.4.1 Profile of Population

Table 2-2 presents each of three strata developed for sampling within the Custom Program, which consists of a total of 367 tracking records comprising 365 unique Custom projects. The number of records is presented by strata, along with ex ante gross kWh claimed, ex ante gross kW claimed, and the amount of incentive paid.

[12] "Proposed Framework for Counting Net Savings in Illinois." Memorandum March 12, 2010 from Philip Mosenthal, OEI, and Susan Hedman, OAG.

Table 2-2. PY4 Custom Program Participation by Sampling Strata

Sampling Strata	Ex Ante kWh Impact Claimed	Ex Ante kW Impact Claimed	Tracking Records	Incentive Paid to Applicant
1	6,618,195	327	6	$425,472
2	18,063,300	1,459	40	$1,207,433
3	14,688,426	1,298	321	$903,500
TOTAL	**39,369,921**	**3,084**	**367**	**$2,536,405**

Source: EM&V analysis based on ComEd tracking database, September 25, 2012.

2.4.2 Gross Impact (M&V) Sample

Sampling

The gross impact (M&V) sampling was conducted in two waves. For Wave 1, ComEd's tracking database extract dated March 29, 2012 (*referred to as* 3/29/2012) was used to select 16 M&V sample points. Using the 3/29/2012 tracking extract, Custom records were sorted and placed in three strata using ex ante savings kWh to create roughly equal contributions to total program savings. When the July 5, 2012 (*referred to as* 7/5/2012) extract became available for Wave 2 sampling, the strata boundaries defined on 3/29/2012 were preserved. This ensured that the Wave 1 sample remained representative of the projects installed before 3/29/12, and that it could be easily combined with the additional Wave 2 sample to estimate PY4 results. Seventeen additional M&V sample points were selected from the incremental projects installed between 3/29/12 and 7/5/12, so that the sample reflects the final population distribution of savings within each stratum. Overall, a total of 33 M&V sample points were selected consistent with the PY4 evaluation plan.

Note that most of the projects installed between 3/29/12 and 7/5/12 were medium or small-sized projects. In addition, many of the "yet-to-be-installed" large projects that had been included in the sampling strategy on 3/29/12 were either moved into PY5, or were installed as part of other Smart Ideas for your Business programs (e.g., Comprehensive Compressed Air Study or Data Centers Program). This caused the final distribution of savings by strata to be uneven.

As per the evaluation plan, the number of lighting projects in the sample selected is proportional to the energy (kWh) savings contribution to the program from that end-use. Lighting projects contributed about 49% of the total ex ante energy savings in PY4. Consequently, seven lighting projects were selected from the 3/29/2012 extract, and nine lighting projects from the 7/5/2012 extract. The total number of lighting projects selected in the final sample is 16 which are about 49% of the total (33) sample points selected in PY4.

Profile of the Gross Impact M&V Sample

Table 2-3 provides a profile of the gross impact M&V sample for the Custom program in comparison with the Custom program population. Shown is the resulting sample that was drawn, consisting of 33 applications, responsible for 13.7 million kWh of ex ante impact claim and representing 35% of the ex

ante impact claim for the program population. Also shown is the ex ante-based kWh sample weights for each of three strata.

Table 2-3. PY4 Custom Program Gross Impact Sample by Strata

Custom Population Summary				Impact Sample		
Sampling Strata	Number of Tracking Records (N)	Ex Ante kWh Impact Claimed	kWh Weights	Number of Tracking Records (n)	Ex Ante kWh	Sampled % of Population kWh
1	6	6,618,195	0.17	6	6,618,195	100%
2	40	18,063,300	0.46	14	6,126,870	34%
3	321	14,688,426	0.37	13	961,817	7%
TOTAL	**367**	**39,369,921**	**-**	**33**	**13,706,882**	**35%**

Source: EM&V analysis of ComEd program tracking data

2.4.3 Telephone Surveys

Sampling

Per the evaluation plan, the target for the participant survey was completing 66 interviews in support of the Evaluation Research Findings net impact estimates and the process evaluation.

For telephone surveys, the unit of sampling is the project contact. To develop the sample of unique project contacts, duplicate contact names were removed from the sample where a single person was involved in more than one project application. In addition, contacts that also completed Prescriptive Program projects could only be contacted once regarding a given project (or project components if the project yielded both Prescriptive and Custom savings). Because fewer Custom projects were completed compared to the Prescriptive Program, Custom projects were given preference over Prescriptive ones.

A telephone survey was conducted with a stratified sample of Custom Program participants. A census was attempted with Stratum 1 and 2 participants because there were relatively few of them and they accounted for most of the energy savings. This survey focused on two key areas: (1) questions to estimate net program impacts and (2) questions to support the process evaluation. All telephone surveys were completed in August and September 2012.

For telephone surveys, 32 sample points were selected using the 3/29/2012 database extract, and 34 additional sample points were selected using the 7/5/2012 database extract. The telephone survey was conducted for the two waves yielding a total of 63 completed interviews. Also, an attempt was made to complete telephone surveys for all (33) PY4 gross M&V sample points, yielding a nested sample of 22 points.

Profile of the Telephone Survey Sample

Table 2-4 summarizes the 63 participant interviews completed in support of the NTG analysis. The completed interviews represent 19.5 million kWh of ex ante impact claim, which is 49% of the ex ante impact claim of the program population.

Table 2-4. Profile of the Participant Survey Net-to-Gross Sample by Strata

Program Population Summary				Completed Interviews		
Sampling Strata	Number of Tracking Records (N)	Ex Ante kWh Impact Claimed	kWh Weights by Strata	Number of Tracking Records (n)	Ex Ante kWh	% of Population Impacts Surveyed
1	6	6,618,195	0.17	6	6,618,195	100%
2	40	18,063,300	0.46	20	9,805,520	54%
3	321	14,688,426	0.37	37	3,038,904	21%
TOTAL	**367**	**39,369,921**	**-**	**63**	**19,462,618**	**49%**

Source: EM&V analysis of ComEd program tracking data

3. Evaluation Results

3.1 Impact Evaluation Results

This section presents Gross and Net impact results from the PY4 Custom program evaluation.

3.1.1 Tracking System Review

To support the impact evaluation, the evaluation team was given direct access to ComEd's on-line tracking system and data. The on-line system was easy to work with and provided viewing access to the project tracking data plus downloading rights to project documentation in electronic format for each project. This documentation was complete and greatly facilitated the evaluation, while removing a step that commonly impedes evaluation progress: A data request for the very information that ComEd made available in the tracking database itself. This level of access and documentation is highly commendable and represents best practice in this area for a custom program.

The evaluation team worked off of a copy of the tracking system data uploaded by ComEd to their secure SharePoint site on a periodic basis. While working with the database, the most important issue for the evaluation team is consistency of the data.

Finding. Tracking data do not appear to be completely populated for peak demand impact (kW). Demand savings were listed as zero kW in 159 out of 367 records. Furthermore, there is evidence that the non-zero peak demand impact estimates that are reported in the tracking system are not always zero leading to under-reporting of peak demand savings. The evaluation found that out of the 17 records with zero ex ante kW impacts included in the impact sample, eight of those records had non-zero ex-post kW impacts. Note that three of the sampled projects had peak demand impact estimates that were prepared as part of the Custom ex ante impact calculations but were not subsequently data entered in the tracking system.

Finding. ComEd did not populate end use consistently for 48 projects, as these projects had "OTHER" or "UNKNOWN" populated in the end use field. Evaluation team went on to assign end uses for these projects based on the measure description.

- **Recommendation**. ComEd should populate end-use for all projects with a value that is consistent with the measure description. With these improvements in place, it would be possible for both the program staff and the evaluation team to review measure-based statistics and more precisely track program accomplishments.

3.1.2 Gross Program Impact Parameter Estimates

Research Findings gross program impacts for the Custom program were developed based on the on-site visits and detailed M&V analysis for 33 projects.

Gross Realization Rates for the Custom Program

There are two basic statistical methods for combining individual gross realization rates from the sample projects into an estimate of verified gross kWh savings for the population when stratified random

sampling is used. These two methods are called "separate" and "combined" ratio estimation.[13] In the case of a separate ratio estimator, a separate gross kWh savings realization rate is calculated for each stratum and then combined. In the case of a combined ratio estimator, a single gross kWh savings realization rate is calculated directly without first calculating separate gross realization rates by stratum.

The separate ratio estimation technique was used to estimate verified gross kWh savings for the Custom program. The separate ratio estimation technique follows the steps outlined in the California Evaluation Framework[14] which identified best practices in program evaluation. These steps are matched to the stratified random sampling method that was used to create the sample for the program. The standard error was used to estimate the error bound around the estimate of verified gross kWh. The results are summarized in Table 3-1, Table 3-2 and Table 3-3 below.

Based on the gross impact sample size of 33 Custom projects in PY4, the evaluation results yielded an energy gross realization rate of 0.80. The PY4 energy gross realization rate of 0.80 is commendable for a custom program. PY4 gross realization rate results indicate that the smallest projects (stratum 3) (RR = 0.72) realized a lower proportion of the ex ante claims than the largest (stratum 1) (RR = 0.80) and medium projects (stratum 2) (RR = 0.86). The evaluation team hypothesizes that this may be due to program M&V activities being less rigorous for strata 3 M&V activities.

The PY4 energy realization rate of 0.80 is lower than the PY3 level of 0.85. For PY4, the impact sample consisted of a significant number of lighting sites i.e., 16 out of the 33 projects in the impact sample and the realization rate for these projects was typically high which would typically improve program energy realization rates. However, the overall program energy realization rate was pushed lower by the non-lighting projects. This is due to the complexity involved with non-lighting projects. Projects involving non-lighting end uses such as HVAC, Compressed Air and EMCS require a more in-depth technical review and pose greater challenges for the program in terms of deriving accurate savings estimates. For example, these projects often involve varying operating conditions or complex multivariable calculation models.

The PY4 demand realization rate of 0.92 is slightly higher than the PY3 level of 0.90. However, note that only 16 out of 33 projects in the impact sample had non-zero ex ante claimed savings. It appears that the peak demand impact estimation is given a lower priority than energy savings due to the fact that incentive levels are tied to energy savings and not peak demand reduction.

The estimation of program demand realization rate and precision around the Research Findings peak demand realization rate is based on all non-zero kW estimates. This led to less sample-based coverage for demand realization rate estimates in comparison with energy realization rate coverage and also affected the precision around the Research Findings peak demand results. Due to the inconsistent way in which the ex-ante kW impacts are populated in the tracking database, these additional findings could not be included in the estimation of the program realization rate and, therefore, could not be credited to the program.

[13] A full discussion and comparison of separate vs. combined ratio estimation can be found in Sampling Techniques, Cochran, 1977, pp. 164-169.

[14] Tec Market Works, "The California Evaluation Framework," Prepared for the California Energy Commission, June 2004. Available at http://www.calmac.org

Table 3-1. Gross Impact Realization Rate Results for the Selected Custom Sample

Sampled Application ID	Sample-Based Ex Ante kWh Impact Claimed	Sample-Based Ex Ante kW Impact Claimed	Sampling Strata	Ex Ante-Based kWh Gross Impact Weights by Strata	Sample-Based Evaluation Research Findings Gross kWh Impact	Sample-Based Evaluation Research Findings Gross kW Impact	Application-Specific Evaluation Research Findings Gross kWh Realization Rate	Application-Specific Evaluation Research Findings Gross kW Realization Rate	Sample-Based Evaluation Research Findings Gross kWh Realization Rate	Sample-Based Evaluation Research Findings Gross kW Realization Rate
7413	1,264,196	0	1	0.19	944,329	11.70*	0.75	-	0.80	1.28
9267	900,117	116	1	0.14	873,241	104.20	0.97	0.90		
12226	1,219,566	63	1	0.18	1,082,692	123.45	0.89	1.96		
8488	987,770	0	1	0.15	1,227,575	41.39*	1.24	-		
13647	1,303,538	148	1	0.20	1,196,159	136.09	0.92	0.92		
8838	943,008	0	1	0.14	-1,106	0.00	0.00	-		
9315	581,449	0	2	0.09	108,273	0.00	0.12	-	0.86	1.17
6385	376,396	0	2	0.06	335,234	0.00	0.89	-		
7374	274,632	46	2	0.04	301,656	64.80	1.10	1.41		
7527	573,525	0	2	0.09	325,679	0.00	0.57	-		
6076	291,307	0	2	0.05	240,478	10.55*	0.83	-		
10020	344,284	0	2	0.06	168,036	41.68*	0.43	-		
9463	332,389	37	2	0.05	537,754	101.00	1.62	2.75		
10842	367,425	29	2	0.06	422,890	46.15	1.15	1.61		
12329	441,477	66	2	0.07	646,108	117.62	1.46	1.79		
11815	726,504	119	2	0.12	149,028	18.63	0.21	0.16		
12564	764,786	127	2	0.12	1,029,438	128.88	1.35	1.01		
8115	268,053	0	2	0.04	165,083	70.30*	0.62	-		
11093	339,394	0	2	0.06	400,605	36.83*	1.18	-		
13886	445,249	68	2	0.07	432,959	97.31	0.97	1.43		
8813	89,514	0	3	0.09	85,284	0.00	0.95	-	0.72	0.56
10024	71,260	0	3	0.07	29,656	0.00	0.42	-		
9689	130,717	0	3	0.14	93,433	8.67*	0.71	-		
8263	245,404	33	3	0.26	99,309	11.42	0.40	0.35		
10416	7,478	1	3	0.01	6,440	0.89	0.86	0.68		
9829	17,982	3	3	0.02	2,685	0.17	0.14	0.04		

Sampled Application ID	Sample-Based Ex Ante kWh Impact Claimed	Sample-Based Ex Ante kW Impact Claimed	Sampling Strata	Ex Ante-Based kWh Gross Impact Weights by Strata	Sample-Based Evaluation Research Findings Gross kWh Impact	Sample-Based Evaluation Research Findings Gross kW Impact	Application-Specific Evaluation Research Findings Gross kWh Realization Rate	Application-Specific Evaluation Research Findings Gross kW Realization Rate	Sample-Based Evaluation Research Findings Gross kWh Realization Rate	Sample-Based Evaluation Research Findings Gross kW Realization Rate
10206	59,220	0	3	0.06	59,220	0.00	1.00	-		
12679	47,190	6	3	0.05	12,293	1.37	0.26	0.23		
13071	93,835	0	3	0.10	101,524	17.20*	1.08	-		
11748	35,675	6	3	0.04	19,487	4.61	0.49	0.69		
14506	7,775	0	3	0.01	4,472	0.00	0.58	-		
12223	8,320	0	3	0.01	3,681	0.00	0.44	-		
11440	147,448	17	3	0.15	159,445	22.10	1.08	1.30		
TOTAL	**13,706,882**	**883**	**-**	**NA**	**11,263,040**	**979**	**NA**	**NA**	**0.80**	**0.93**

Source: EM&V analysis

**Within the impact sample we found eight projects with 238 kW total Evaluation Research Findings kW savings, but zero ex ante kW savings. These observations could not be used to estimate a kW realization rate, and also could not be applied to the program population using a ratio estimation approach.*

The relative precision at a 90% confidence level for the gross impact results is ± 12% for the kWh Realization Rate and ± 20% for the kW Realization Rate. One factor that contributed to the relatively high precision result for kW is that only 16 projects from the total of 33 sampled projects reported non-zero ex ante kW savings estimates resulting in less sample-based coverage for demand realization rate.

Table 3-2. Gross kWh Realization Rates and Relative Precision at 90% Confidence Level

Stratum	Relative Precision ± %	Low	Mean	High
Stratum 1	0%	0.80	0.80	0.80
Stratum 2	20%	0.69	0.86	1.03
Stratum 3	21%	0.57	0.72	0.87
Total kWh RR	**12%**	**0.70**	**0.80**	**0.89**

Source: EM&V analysis

Table 3-3. Gross kW Realization Rates and Relative Precision at 90% Confidence Level

Stratum	Relative Precision ± %	Low	Mean	High
Stratum 1	18%	1.04	1.28	1.51
Stratum 2	31%	0.81	1.17	1.53
Stratum 3	32%	0.39	0.56	0.74
Total kW RR	**20%**	**0.74**	**0.93**	**1.11**

Source: EM&V analysis

3.1.3 Gross Program Impact Results

Based on the gross impact parameter estimates described previously, gross program impacts were derived for the PY4 Custom program. Table 3-4 provides the gross impact results for the PY4 program.

Table 3-4. Gross Parameter and Savings Estimates

Sampling Strata	Ex Ante kWh	Evaluation Research Findings kWh	kWh RR	Ex Ante kW	Evaluation Research Findings kW	kW RR
1	6,618,195	5,322,890	0.80	327	417	1.28
2	18,063,300	15,543,953	0.86	1,459	1,708	1.17
3	14,688,426	10,570,037	0.72	1,298	733	0.56
Total	**39,369,921**	**31,436,881**	**0.80**	**3,084**	**2,858**	**0.93**

Source: EM&V analysis

The evaluation team has provided to ComEd site-specific M&V reports for each verified project. These site-specific impact evaluation reports summarize the ex ante savings in the Final Application submitted, the evaluation M&V plan, the data collected at the site, and all of the calculations and parameters used to estimate savings.

Some general observations from the gross impact sample:

- The non-weighted Research Findings realization rates (RR) per end use are as follows: for lighting end use the realization rate is 91.2% with 16 sites, for HVAC end use with five sites RR is 57%, for EMCS end use with three sites RR is 78.2%, for Compressed Air end use with six sites RR is 62.3%, for Refrigeration end use with one site RR is 71.5% and Other end use with two sites RR is 83%.
- For Project #10416, only 292 lamps of the ex ante claimed 428 lamps were found to be installed during evaluation verification.
- Ex ante final calculations show kW peak savings for Projects, #9689, #10020 #13071, but the tracking system reported zero ex ante kW savings.
- For Project #8838, it was found that the air flow (CFM) demand reduction was not accurately modeled in the ex ante calculations which resulted in overestimation of savings.
- The program selected baseline condition for two replace-on-burnout or normal replacement type projects (Projects #7527 and #8263) was adjusted in the evaluation to represent a baseline condition that meets standard (industry/facility) practice, which significantly reduced the total realized savings for these projects.
- For the replace-on-burnout Project #8263, the program used the full project cost instead of the incremental cost to calculate incentives.
- The evaluation savings were also reduced due to simple errors identified in the program calculations for two projects (Projects #6076 and #7413). For example Project #6076, an error in the program calculations, which instead of normalizing the baseline energy usage to the post retrofit or TMY3 weather conditions, normalized the post energy usage to the baseline weather conditions resulting in an inaccurate estimation of energy savings.
- For some projects, the evaluation analysis benefitted from the availability of extended period of post retrofit data which allowed for capturing varying operating conditions and for developing enhanced calculation models such as regression models to determine savings. However, the program did not have the same benefit instead the program had to use limited period of post retrofit data to calculate savings which led to the overestimation of savings (e.g. Lighting Controls project – Project #7413 and EMS projects – Projects #6385 and #8813).
- For lighting Projects #9829 #13647, #10020 and #13886, evaluation findings for hours of operation differed substantially from ex ante estimates which caused the RR to be lower.
- For lighting Projects #9463, #10842 #12329, #10206, and #13071 evaluation findings for hours of operation differed substantially from ex ante estimates which caused the RR to be higher.
- Evaluation calculation methodology to estimate interactive effects savings in refrigerated spaces for lighting Projects #12226, #9463, #10842 and #12329 differed from ex ante calculation methodology. Ex ante calculation methodology used a deemed savings value of 1.5 to calculate

interactive effects savings in refrigerated spaces whereas; the evaluation used a customized calculation methodology for these projects.

- From the total of 33 gross impact sites evaluated in PY4, 19 projects were evaluated using IPMVP Option A, two projects were evaluated using IPMVP Option B, four projects were evaluated using IPMVP Option C and two projects were evaluated using IPMVP Option D. Six projects were evaluated using a hybrid approach i.e., IPMVP Option D in conjunction with IPMVP Option A.

3.1.4 Evaluation Verified Net Program Impact Parameter Estimates

As discussed previously, the Evaluation Verified NTGR values are deemed values, derived from the PY2 evaluation. The PY2 energy and demand savings NTGR is 0.76.

3.1.5 Evaluation Verified Net Program Impact Results

Net program impacts were derived by multiplying PY4 Evaluation Research Findings Gross program savings by the deemed PY2 Net-to-Gross Ratio (NTGR). Table 3-5 and Table 3-6 provide the program-level Evaluation-Verified net impact results for the PY4 Custom program. The Evaluation Research Findings gross realization rate for energy savings is 0.80, while the realization rate for demand is 0.93 is based on the M&V analysis conducted for the projects in the sample. The Evaluation Verified NTGR for energy savings and demand savings is 0.76 is based on a deemed value, derived from the PY2 evaluation.

Table 3-5. Program-Level Evaluation Net kWh Impacts for PY4

Sampling Strata	Ex Ante Gross kWh	Evaluation Research Findings Gross kWh	kWh RR	Evaluation Verified Net kWh	Evaluation Verified NTGR
1	6,618,195	5,322,890	0.80	4,045,397	0.76
2	18,063,300	15,543,953	0.86	11,813,405	0.76
3	14,688,426	10,570,037	0.72	8,033,228	0.76
Total	**39,369,921**	**31,436,881**	**0.80**	**23,892,030**	**0.76**

Source: EM&V analysis

Table 3-6. Program-Level Evaluation Net kW Impacts for PY4

Sampling Strata	Ex Ante Gross kW	Evaluation Research Findings Gross kW	kW RR	Evaluation Verified Net kW	Evaluation Verified NTGR
1	327	417	1.28	317	0.76
2	1,459	1,708	1.17	1,298	0.76
3	1,298	733	0.56	557	0.76
Total	**3,084**	**2,858**	**0.93**	**2,172**	**0.76**

Source: EM&V analysis

The chained realization rate calculated based on the Evaluation Research Findings gross RR and Evaluation verified NTGR shown in tables above (gross RR * NTGR) is 0.61 for kWh and 0.70 for kW.

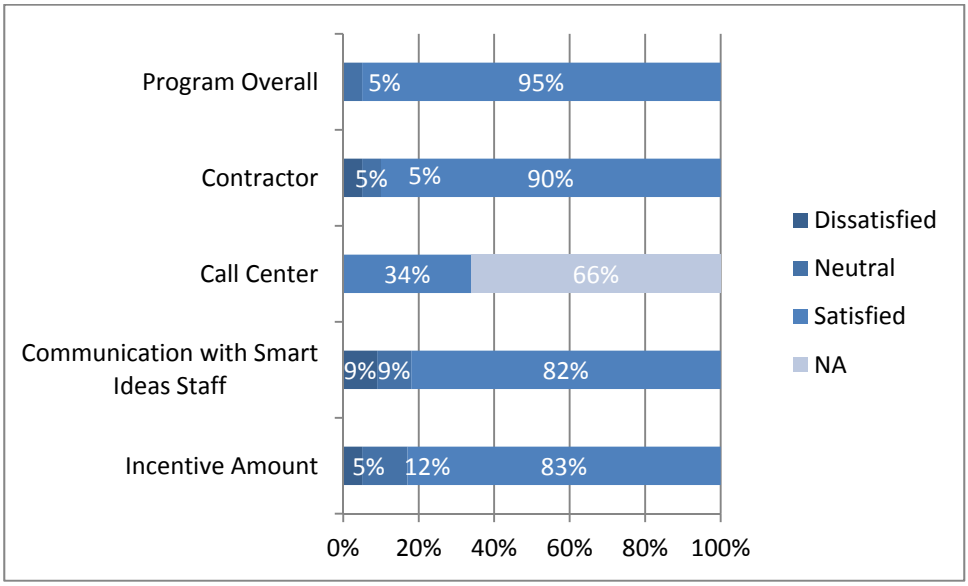
3.2 *Process Evaluation Results*

The process component of the Smart Ideas for Your Business Custom program evaluation focused on program participation, program design and implementation, the trade ally network, marketing and outreach, barriers to participation, and participant satisfaction.

3.2.1 Customer Satisfaction

The participant survey, conducted in September 2012, included 64 interviews. Of those, interviews with the six largest customers (stratum 1 projects) were conducted by senior staff. For those interviews, customers were asked about the strengths and weaknesses of the program instead of receiving the entire process battery due to prioritization of net impact findings. Fifty-eight participants received the process battery. We spoke with those customers about their satisfaction with the program. In general, 95% of the customers surveyed reported being satisfied with the program overall. Most customers (83%) reported being satisfied with the incentive amount; while 82% reported being satisfied with the communication with Smart Ideas staff. A majority (86%) reported planning to participate in ComEd's Smart Ideas for Your Business Program again in the future.

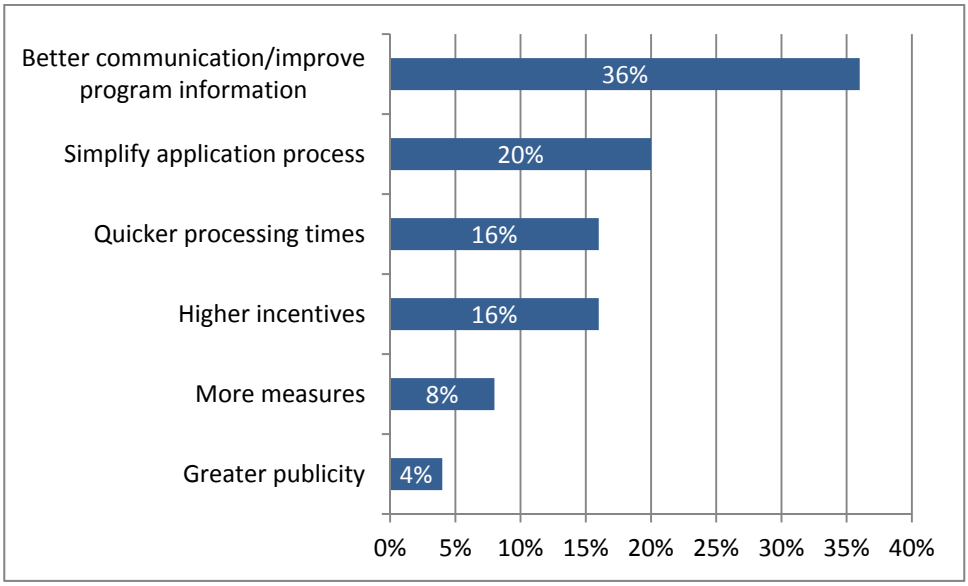
Figure 3-1. Customer Satisfaction



Source: EM&V analysis

Participants were also asked if they could recommend any improvements; 52% could offer no recommendations for improvement. Those that did (n=30), cited better communication/improved program information (32%) as their top recommendation followed by higher incentives (26%).

Figure 3-2. Recommended Improvements (n=30)



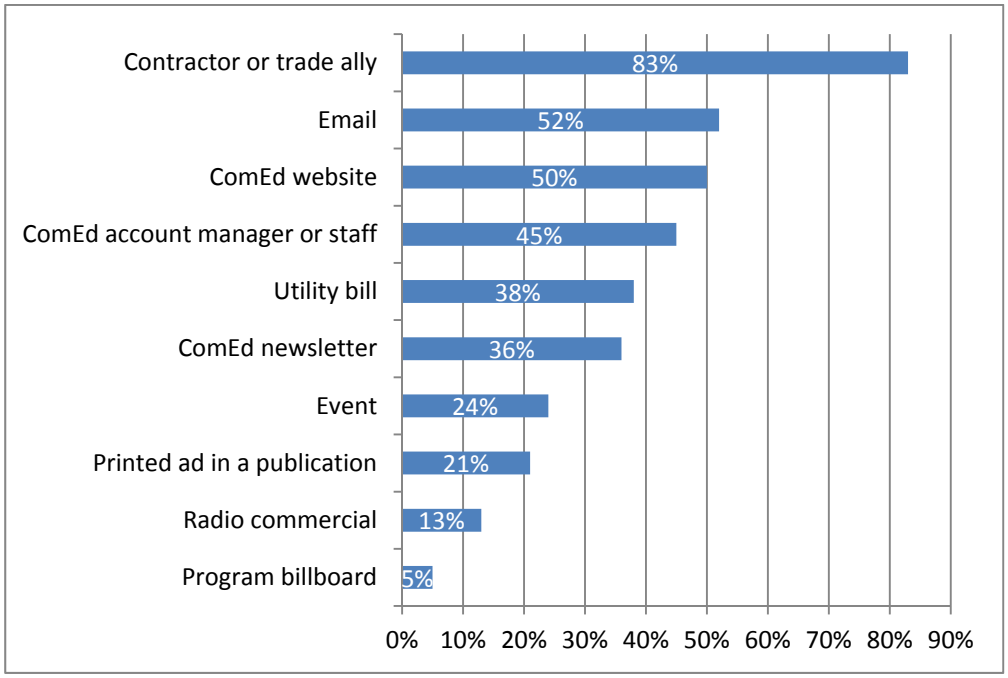
Source: EM&V analysis

In addition to the survey, six interviews were conducted with the largest stratum of customers. Among the program strengths, customers cited their satisfaction with their trade allies and the fact that the incentive helped them make the business case for the project. As far as weaknesses, customers stated that it was sometimes difficult to establish and agree upon the baseline that would be used to calculate the energy savings and incentive. These Stratum 1 customers also indicated that they thought the process should have been explained more clearly.

3.2.2 Marketing and Outreach

In terms of marketing and outreach, we asked participants how they had heard about the program. The most cited method of hearing about the program is through contractors or trade allies (81%), followed by the ComEd website (57%), and utility bill (54%). Radio commercials and billboards were the least reported methods through which customers learn about the program (26% and 17% respectively).

Figure 3-3. How Participants Hear about the Program (n=multiple response)



Source: EM&V analysis

ComEd's program management staff reported that they placed increased emphasis on direct outreach to large customers through the account management staff. As was mentioned earlier, account managers had goals to present a slide deck about the program to their largest tier customers. The results of that effort are discussed in the account manager section.

3.2.3 Technical Services Offerings

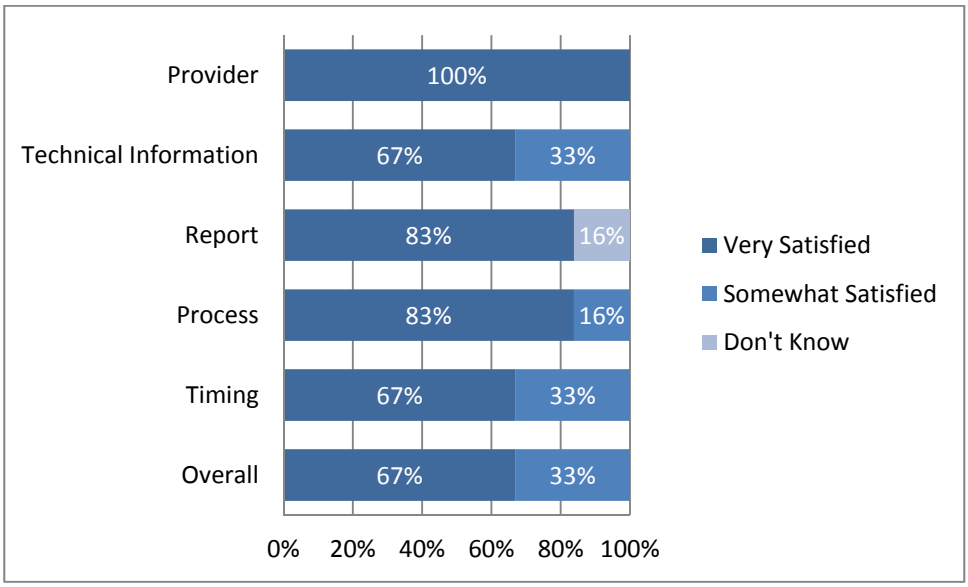
ComEd also introduced two new technical services offerings for PY4; the Facility and System Assessments (FSA) and the Smart Ideas Opportunity Assessments (SIOA). The FSA offering consists of a more in-depth audit conducted by a third-party provider for which the customer pays a $5,000 fee. If the customer completes a project identified through the FSA process, the initial fee is returned. The SIOA assessment is free to the customer and consists of a two-hour walk through of the customers facility conducted by a ComEd engineer. Thirty-four customers had participated in the FSA offering and 366 had participated in the SIOA offering at the end of PY4. Because the population size for the FSA assessments was limited, only six interviews were conducted with participants in the FSA program offering, while fifteen were completed with participants in the SIOA offering. Customers were asked about their satisfaction with the program as well as the likelihood that they will complete projects based on their participation.

Participant Satisfaction

Although only six participants in both technical assistance offerings completed satisfaction surveys, they all indicated satisfaction with the program overall. Facility and System Assessment participants rated their providers very highly with 100% of the respondents reporting that they were "very satisfied" with

them. FSA participants were least satisfied with the technical information they received as well as the timing. Figure 3-4 breaks down the satisfaction by program element.

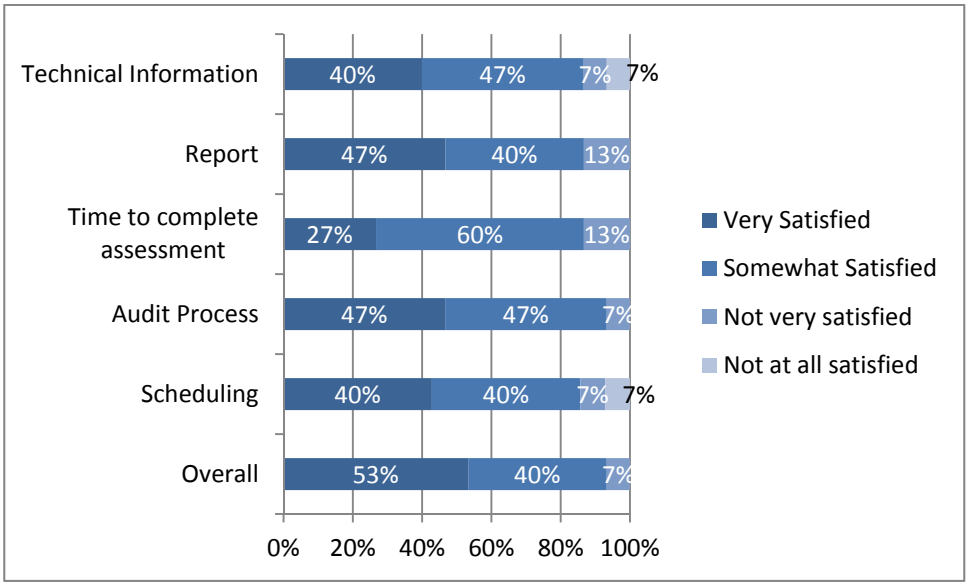
Figure 3-4. Facility and System Assessment Satisfaction (n=6)



Source: EM&V analysis

Customers that participated in the SIOA program were also satisfied with the program overall with 93% reporting being "very" or "somewhat" satisfied. SIOA participants rated the report and the audit process highly. The program received lower marks for the technical information provided with 87% of customers being either "very" or "somewhat" satisfied and the scheduling of the audit with 80% being either "very" or "somewhat" satisfied. Figure 3-5 breaks out participant satisfaction with the various elements.

Figure 3-5. Smart Ideas Opportunity Assessment Satisfaction (n=15)



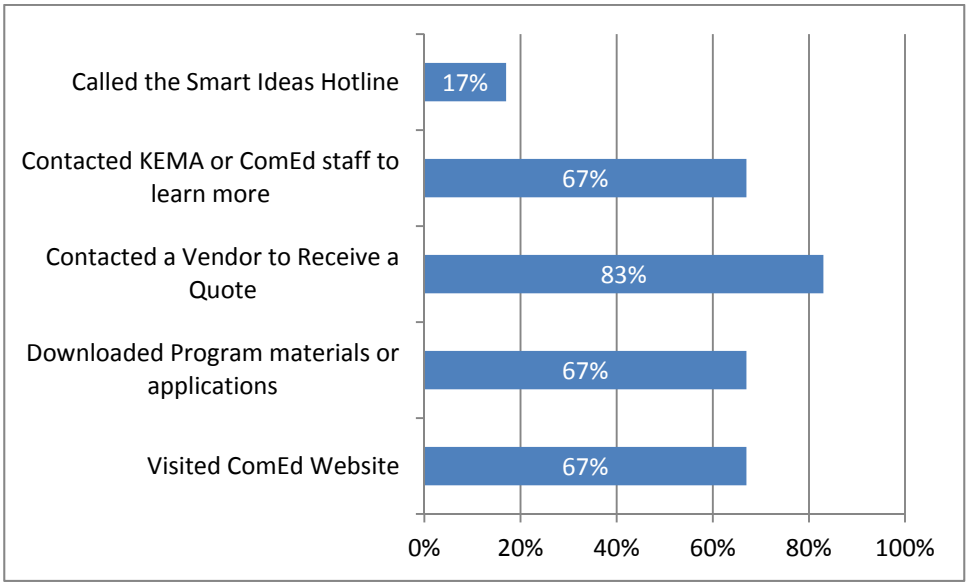
Source: EM&V analysis

Project Completion

The goal of the technical assistance offerings is to bring projects into the program; therefore, we also asked customers if the assessments uncovered projects that they were not aware of and if the assessments made them more likely to complete a project in the future. The majority of SIOA participants (73%) reported that they were aware of the projects before they had the assessment, whereas 50% of the Facility and System Assessment participants report being aware of the projects identified in the assessment. Both of the technical services offerings do seem to generate interest in the program with 47% of SIOA and 67% of FSA participants reporting that the assessment has impacted their interest in the program. Additionally, 33% of SIOA participants and 50% of the Facility and System Assessment participants reported that they have completed at least one project identified by the assessment.

Eighty-three percent of participants in the FSA offering reported that since receiving the assessment they have reached out to a vendor or trade ally to receive a quote. Additionally, two-thirds (67%) of FSA participants report contacting KEMA or ComEd staff to learn more about the program and have downloaded program materials and applications from the website. Figure 3-6 shows the activities that the FSA participants report completing since they received their assessments.

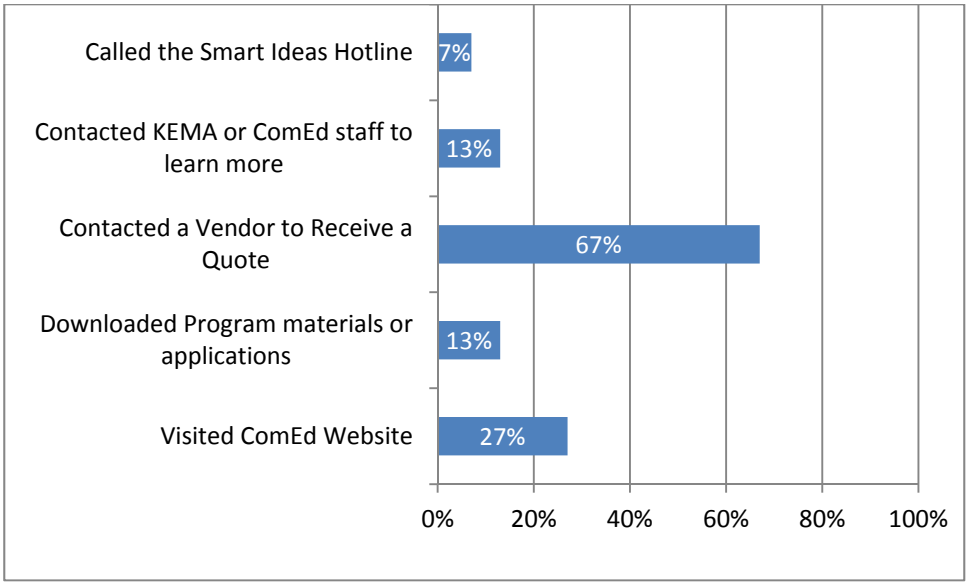
Figure 3-6. Activities since Assessment - FSA (n=6)



Source: EM&V analysis

As with the FSA participants, the SIOA participants reported most often that after receiving the assessment they contacted a vendor for a quote (67%). The next most common Smart Ideas related activity that SIOA customers report is visiting the website (mentioned by 27% of those interviewed).

Figure 3-7. Activities since Assessment - SIOA (n=15)



Source: EM&V analysis

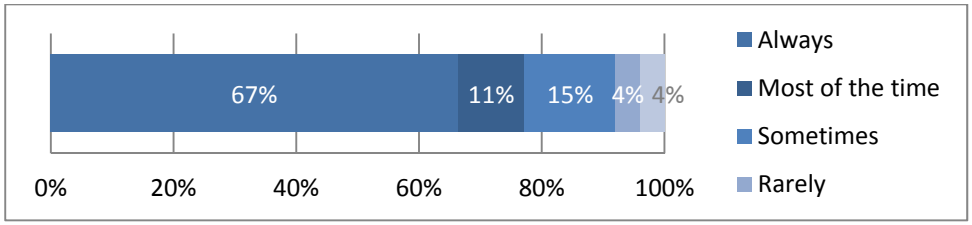
3.2.4 Trade Ally Program

Contractors and equipment vendors are important channels to ComEd's C&I customers. The bulk of participants (86%) worked with a contractor to complete their projects. Overall, two-thirds (66%) of those interviewed felt that it was important (7-10 on a 0-10 scale) that contractors are trained in ComEd's Smart Ideas for Your Business application process and program incentives; however, only a third (32%) of those same customers reported that they used a contractor affiliated ComEd Smart Ideas for Your Business program. Satisfaction with contractors is high; of those who worked with a contractor, most (68%) felt that the contractor was completely able to meet their needs (10 on a scale of 0-10) and nearly all (98%) would recommend their contractor to other people or companies.

In order to boost participation of trade allies, the program launched a two-tiered bonus incentive structure. So called, "Platinum" trade allies were given the goal of achieving 25% or 50% more in PY4 than what they achieved in PY3. The program then paid an incentive of $.20/kWh for the kWh that they brought in over their established goals. The program also had a "Gold" performance reward level whereby trade allies that achieve between 2,300,000 and 4,999,999 kWh receive a reward of $7,500 and trade allies that achieve more than 5,000,000 kWh get a reward of $15,000. There were 274 unique contractors that submitted projects to the Smart Ideas programs listed in the program database. We interviewed 27 trade allies that submitted projects to the program to get their feedback on the program including the bonus incentives.

Trade allies are generally quite active in promoting the program to their customers. In fact, most trade allies (67%) report "always" promoting the program to their customers and conversely only 4% reported that they "never" promote the program to their customers.

Figure 3-8. Percent that Promote Program to Customers



Source: EM&V analysis

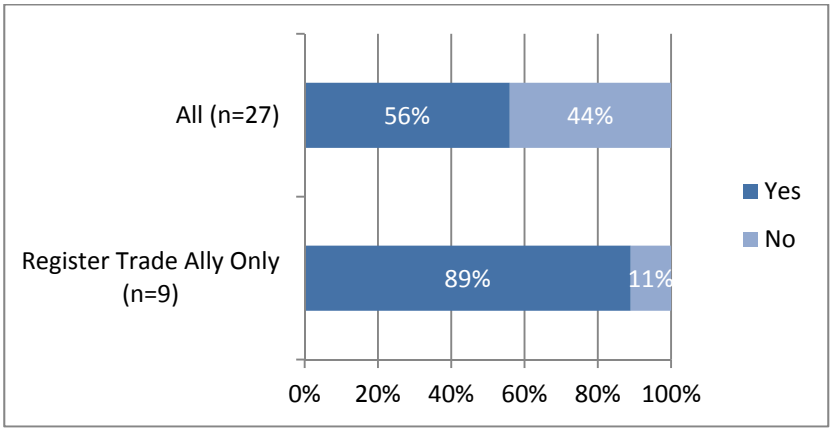
The bonus program was intended to increase promotion of the Smart Ideas program on the part of trade allies in order to bring more projects into the program. Thirteen trade allies participated in the "Platinum" performance reward tier and 60 participated in the "Gold" tier performance reward. The program staff based the trade ally tier on their performance in PY3. According to the trade ally performance report provided by ComEd, four "Platinum" trade allies received bonuses with two of those trade allies meeting the basic goal and two meeting the stretch goal. Five "Platinum" trade allies brought fewer kWh into the program in PY4 than they did in PY3. Combined, the "Platinum" tier trade allies in PY4 brought in 107,715,095 in PY3. The combined goals for the "Platinum" trade allies for PY4

were 147,000,000 for the basic goal and 176,500,000 for the stretch goal[1]. The final amount of kWh brought into the program for PY4 was actually lower than for PY3 by about 12 million kWh. There were two participants that significantly underperformed in PY4 when compared to PY3; those two trade allies alone accounted for a 31million kWh decrease year over year. If those two trade allies were excluded from the analysis the "Platinum" tier would have seen a 27% increase in savings.

The combined savings achieved by the "Gold" tier trade allies in PY3 was about 64 million kWh; in PY4 those trade allies produced 91 million kWh in savings which is a 42% increase in savings year-over-year. However, eleven of the trade allies included in the PY4 program did not have any savings attributed to them in PY3. If you exclude trade allies included in the PY4 bonus program that did not participate in PY3, the savings achieved drops from 27 million down to just over 6 million, which is about a 10% increase year-over-year.

Of the 27 contractors we interviewed, over half (56%) reported being aware of the bonuses offered by the program. Among the nine registered trade allies interviewed, awareness was even higher at 89%.

Figure 3-9. Awareness of Bonus



Source: EM&V analysis

Customer Barriers

Over half (55%) of the account managers interviewed report that they promote the program to their customers very often, but they also indicated that customers are often more concerned about reliability, new service and power quality issues than they are about energy efficiency. For example one account manager noted:

"You can't just redirect them when their focus is "Hey I'm not getting good power quality; I can't run a couple of my production lines" You're not going to say "Oh, by the way [here are the energy efficiency programs]"'.

[1] There was one trade ally included in the "Platinum" list that did not have any savings recorded for either PY3 or PY4. This trade ally was dropped from the trade ally performance analysis.

Another noted:

"It's a money issue and the time [is an issue] for the customers".

Almost half (46%) of the account managers thought that all of their customers were aware of the Smart Ideas for Your Business Program, while only 9% thought that their customers were interested in the program. Typically, account managers felt that customer interest was largely tied to whether the customer could afford to have the work done, rather than the potential for savings. One account manager argued:

"There are customers on the verge of bankruptcy and have no money for [these types of] programs. If they can't meet their payroll, then they can't think about energy savings ideas."

Others noted:

"Customers having available funds to begin a project [is a barrier]".

"Incentives are the make-or-break point. The incentives can make the case to the business".

4. Findings and Recommendations

This section highlights the conclusions and recommendations from the PY4 evaluation of ComEd's Smart Ideas for your Business Custom program. Below are the key findings and recommendations.

4.1 Key Impact Findings and Recommendations

Gross Impacts

Based on the gross impact sample size of 33 Custom projects in PY4, the evaluation results yielded an energy gross realization rate of 0.79. The PY4 energy gross realization rate of 0.79 is commendable for a Custom program. PY4 gross realization rate results indicate that the smallest projects (stratum 3) (RR = 0.72) realized a lower proportion of their ex ante claims than the largest (stratum 1) (RR = 0.80) and medium projects (stratum 2) (RR = 0.85). The evaluation team hypothesizes that this may be due to program M&V activities being less rigorous for strata 3 projects.

The PY4 energy gross realization rate of 0.79 is lower than the PY3 level of 0.85. For PY4, the impact sample consisted of a significant number of lighting sites i.e., 16 out of the 33 projects in the impact sample, and the gross realization rate for these projects was typically high which generally improved the program energy realization rate. However, the overall program energy realization rate was pushed somewhat lower by the non-lighting projects. This is due to the complexity involved with non-lighting projects. Projects involving non-lighting end uses such as HVAC, Compressed Air and EMCS require a more in-depth technical review and pose greater challenges for the program in terms of deriving accurate savings estimates. For example, these projects often involve varying operating conditions or complex multivariable calculation models. Therefore, overall results suggest, especially among complex projects, that ex ante savings estimates and the program gross impact results could be further improved by enhancing program M&V activities, project technical reviews and calculation methods. Key evaluation findings and recommendations include the following:

Improvements to Ex Ante Savings Estimates[15]

Finding. The evaluation verified savings for projects were reduced relative to ex ante savings in some instances due to errors identified in the program calculations. For example, program calculations for Projects #6076 and #8838 used inaccurate savings normalization methods, Project #11815 used incorrect assumptions and the data analysis for Project #11748 included non-operational periods to represent operating periods.

- **Recommendation.** The program should enhance in-depth technical reviews of assumptions, data analysis and normalization methods used in savings calculations. Such an effort would seek to reduce the frequency of errors and improve impact estimates.

Finding. In some cases, the project realization rates were affected by the selection of different IPMVP approaches (e.g., calculation methods) used by the program and the evaluation (e.g. Projects #9267, #8115, #8488). Also, for projects where the program used Option C (e.g., utility meter data analysis), the

[15] Site-specific data and information reported in this section is limited in some instances in order to protect customer confidentiality

evaluation was not able to clearly identify the reasons for the increase or decrease of realized savings since measure performance can be difficult to isolate in a billing analysis approach. The evaluation team contends that there will be more uncertainty in the resulting savings estimates when Option C is used.

- **Recommendation.** The program should consider using IPMVP Option A or B; retrofit isolation as the primary M&V method instead of Option C (utility meter data analysis) , if cost effective. This will improve the certainty in resulting savings estimates.

Finding. For several lighting projects, the programs' estimation of operating hours was found to be inaccurate. For four projects, the program reported operating hours were found to be significantly less (by approximately 50%) than the evaluation verified operating hours. For three projects, the program reported operating hours were significantly greater (approximately 35%) than evaluation verified operating hours. Limited program measurement was conducted to estimate operating hours for lighting projects.

- **Recommendation.** The program should collect additional data to more accurately estimate the operating hours for lighting projects. The program should verify in greater detail if the data collected is representative if typical operating conditions. In cases, where no measurements are performed, thorough interviews with customer contact and also additional facility staff should be conducted to help gather information for estimating operating hours. For lighting controls measures, extended data collection should be considered in order to capture both the pre- and post-installation conditions, and thereby better estimate the operating hour differences associated with controls.

Finding. For lighting projects in refrigerated spaces, the program calculated interactive effects (IE) savings based on deemed values taken from Vermont TRM[16], whereas the evaluation used a customized calculation methodology to estimate savings for these projects. Also, for several lighting projects in conditioned spaces, the program did not calculate interactive savings but the evaluation did.

- **Recommendation.** Since the PY4 program consisted of a significant number of lighting projects it is critical that the program calculations follow a consistent and thorough approach to estimate IE savings for lighting projects. The program should collect site specific data and use customized calculation models rather than using a deemed savings approach.

Verification activities for customer with multiple (store) applications:

Finding. For a customer with multiple (e.g., stores) lighting applications, ComEd verified the installed quantity through review of invoices for each store. In PY4, for this customer with multiple applications (approximately 96) for one of the sampled stores application (Project #10416) the program reported an installation quantity of 428 fixtures which did not match the evaluation verified installed quantity of 292 fixtures.

- **Recommendation.** We recommend that ComEd randomly select a sample (up to 15%) of stores and conduct on-site audits to verify the installed quantities and confirm that the invoices match the actual installed quantities.

[16] Technical Resource User Manual (TRM), Efficiency Vermont, TRM User Manual No. 2009-54.

Baseline Review

Finding. The program selected baseline condition for four replace-on-burnout or normal replacement type projects (Projects #7527, #8263, #9315, and #12679) was adjusted in the evaluation to represent a baseline condition that meets standard (industry/facility) practice, which significantly reduced the total realized savings for these projects.

- **Recommendation.** The program should conduct a thorough review of the pre-existing equipment as part of the baseline selection process. The customer or trade ally provided information should be double checked when possible to ensure that the information provided is consistent with the actual existing conditions.
- **Recommendation.** When selecting baseline for replace-on-burnout (ROB) or natural replacement type projects, the baseline selection should be based on existing code requirements. Illinois currently has International Energy Conservation Code (IECC) 2009 as the commercial energy code. ASHRAE code requirements should only be used in the absence of IECC 2009 code.
- **Recommendation.** In the case of equipment replacements, in the absence of any code, ROB baseline should be selected based on industry/facility standard practice, or minimum efficiency equipment available as a replacement option as a last resort.
    - Facility standard practice is used for baseline selection where the industry standard practice is not clear, or if industry standard practice is less efficient than the pre-existing equipment. Furthermore there should be strong evidence establishing facility standard practice, including consideration of the efficiency level of the pre-existing system or application of corporate standard practice policy. For example, in Project #7527, the facility had pre-existing building controls that failed and therefore, the baseline should have been pre-existing building controls rather than no controls used as the baseline by the program.
    - The program should select minimum efficiency equipment only if there is no clear industry standard practice. e.g., Project #12679, the customer installed a cycling refrigerated dryer. Therefore, the baseline should have been a non-cycling refrigerated dryer consistent with industry standard practice for refrigerated dryers and not a minimum efficiency desiccant dryer selected as the baseline by the program.
    - If the efficiency of the pre-existing equipment is better than the minimum efficiency equipment available as a replacement option, then the program should select the pre-existing equipment as the baseline. e.g., Project #8263, the program selected minimum efficiency inlet modulation air compressor unit as the baseline. However, the customer had a preexisting system that was a more efficient load/unload air compressor unit which should have been selected as the baseline.
    - Note that like-for-like equipment replacements are ineligible for program incentive funding. These include situations where the customer is replacing energy efficient equipment with similar energy efficient equipment as a result of their facility's standard practice.

Peak kW Savings

Finding. The program did not calculate demand savings for five projects in the impact sample. For these five projects with zero ex ante kW impacts, the evaluation calculated ex-post kW impacts totaling approximately 171 kW. Also, for three projects the program calculated kW savings but they were reported as zero ex ante kW savings in the tracking system. For these two projects, the evaluation calculated kW impacts totaling approximately 67 kW.

- **Recommendation.** The program should calculate demand savings for all eligible projects and also ensure that the demand savings are populated consistently in the tracking system It is also notable that the evaluation-applied ratio estimation approach subsequently precludes these savings from being reported to PJM. This is a significant issue since about 24% of the projects in the impact sample are affected by this issue.

4.2 Key Process Findings and Recommendations

Influence of other Programs

Finding: The number of Custom applications has decreased dramatically year-over-year from PY3 (a 60% drop). One reason for this could be that a number of customers were directed to different program offerings such as Commercial Real Estate or Compressed Air. As the Smart Ideas C&I portfolio continues to expand and tailor offerings to the needs of different customer types, fewer customers may participate in the "basic" offerings. Additionally, by nature Custom programs often feed into prescriptive programs. For example, a newer technology could start out as a Custom measure but as the program gets more experience with it and the savings are tested and repeatable the program will often move that measure into the prescriptive program. One example of this for ComEd is Variable Speed Drives (VSDs). Originally all VSD projects were processed as Custom projects and after a number of years the program developed a hybrid Custom/Prescriptive approach whereby the energy savings are based on a deemed algorithm and the incentive is a fixed amount per horse power and is processed as a prescriptive measure. This may not have an impact on the C&I portfolio overall but it does impact the relative performance of the Custom program. The Custom program might look like its participation is decreasing but this is due to cannibalization by other program offerings.

- **Recommendation.** In response the Custom offering is probably the most appropriate venue for ComEd to introduce emerging technologies and thereby expand the reach and offering across all program elements. Emerging "replacement" technologies should be less prone to free ridership, as they represent opportunities for the ComEd Custom program to introduce customers and trade allies to these newer technologies. Conversely, by offering more established technologies the program is exposed to greater potential free ridership.

Lighting Projects

Finding: Lighting continues to dominate Custom program participation with about 77% of the Custom projects completed, but on average lighting projects contribute the smallest per-project kWh savings.

- **Recommendation.** ComEd should try and grow the number of non-lighting projects coming through the Custom program. One approach to consider would be to increase incentives on non-lighting technologies, if cost effective.

Marketing and Outreach

Finding: Trade allies remain a very important channel to customers. Both Smart Ideas Opportunity Assessments (SIOA) and Facility and System Assessments (FSA) participants reported that, after receiving the assessment, they often contact vendors for quotes on the projects that are identified and they are less likely to contact their ComEd account manager or other ComEd and KEMA staff. Additionally, ComEd account mangers report that they are likely to hear of projects after the customer has been approached by a trade ally. Approximately one-third (27%) of account mangers interviewed felt that they were very familiar with the trade ally network. Account managers also indicated that they would like to increase their involvement with trade allies.

- **Recommendation.** ComEd could consider ways in which they could strengthen the ties between account managers and trade allies. This could include having more trade allies present at Lunch-and-Learns for the account managers or having account managers attend Trade Ally Basic Training sessions or other trade ally events to familiarize more account managers with the trade ally network.

Trade Ally Program

Finding: With the exception of a handful of trade allies that underperformed in PY4, trade allies appear to be motivated by cash bonuses. The aggregate performance of the trade allies that participated in the PY4 Trade Ally bonus program did not appear to be significantly higher than the savings achieved by in PY3 by the same group of trade allies; however, the aggregate total is skewed because of significant underperformance of just a handful of trade allies. In fact, two "Platinum" trade allies combined contributed 31 million fewer kWh in PY4 than in PY3. If those two trade allies are excluded from the analysis, the "Platinum" tier of trade allies achieved 27% more energy savings in PY4 than they did in PY3.

- **Recommendation:** Comparing year over year performance offers trade allies a longer time horizon which is important because shorter- term "fire sale" bonuses have the tendency to clear the pipeline and are not helpful in the long run. ComEd should continue to test different bonus structures with trade allies to find what works best.

Technical Assistance Offerings

Finding: Initial qualitative results seem to indicate that FSA participants are more likely to complete a project after the assessment than SIOA participants; 50% of FSA and 33% of SIOA participants report completing a project reported in the assessment. This could be due to the perceived value of the audit or the fee that screens out customers that are less serious about identifying projects. Often when consumers receive something for free they don't fully appreciate its value.

- **Recommendation.** ComEd may consider charging a nominal fee (far below the $5,000 for the FSA offering) to SIOA participants in order to eliminate customers that do not have any intention of completing projects and thereby establish the value of the audit in the mind of the customer.

5. Appendix

5.1 Glossary

High Level Concepts

Program Year

- EPY1, EPY2, etc. Electric Program Year where EPY1 is June 1, 2008 to May 31, 2009, EPY2 is June 1, 2009 to May 31, 2010, etc.
- GPY1, GPY2, etc. Gas Program Year where GPY1 is June 1, 2011 to May 31, 2012, GPY2 is June 1, 2012 to May 31, 2013.

There are two main tracks for reporting impact evaluation results, called Verified Savings and Impact Evaluation Research Findings.

Verified Savings composed of

- Verified Gross Energy Savings
- Verified Gross Demand Savings
- Verified Net Energy Savings
- Verified Net Demand Savings

These are savings using deemed savings parameters when available and after evaluation adjustments to those parameters that are subject to retrospective adjustment for the purposes of measuring savings that will be compared to the utility's goals. Parameters that are subject to retrospective adjustment will vary by program but typically will include the quantity of measures installed. In EPY4/GPY1 ComEd's deemed parameters were defined in its filing with the ICC. The Gas utilities agreed to use the parameters defined in the TRM, which came into official force for EPY5/GPY2.

Application: When a program has deemed parameters then the Verified Savings are to be placed in the body of the report. When it does not (e.g., Business Custom, Retrocommissioning), the evaluated impact results will be the Impact Evaluation Research Findings.

Impact Evaluation Research Findings composed of

- Research Findings Gross Energy Savings
- Research Findings Gross Demand Savings
- Research Findings Net Energy Savings
- Research Findings Net Demand Savings

These are savings reflecting evaluation adjustments to any of the savings parameters (when supported by research) regardless of whether the parameter is deemed for the verified savings analysis. Parameters that are adjusted will vary by program and depend on the specifics of the research that was performed during the evaluation effort.

Application: When a program has deemed parameters then the Impact Evaluation Research Findings are to be placed in an appendix. That Appendix (or group of appendices) should be labeled Impact Evaluation Research Findings and designated as "ER" for short. When a program does not have deemed parameters (e.g., Business Custom, Retrocommissioning), the Research Findings are to

be in the body of the report as the only impact findings. (However, impact findings may be summarized in the body of the report and more detailed findings put in an appendix to make the body of the report more concise.)

Program-Level Savings Estimates Terms

N	Term Category	Term to Be Used in Reports‡	Application†	Definition	Otherwise Known As (terms formerly used for this concept)§
1	Gross Savings	Ex-ante gross savings	Verification and Research	Savings as recorded by the program tracking system, unadjusted by realization rates, free ridership, or spillover.	Tracking system gross
2	Gross Savings	Verified gross savings	Verification	Gross program savings after applying adjustments based on evaluation findings for only those items subject to verification review for the Verification Savings analysis	Ex post gross, Evaluation adjusted gross
3	Gross Savings	Verified gross realization rate	Verification	Verified gross / tracking system gross	Realization rate
4	Gross Savings	Research Findings gross savings	Research	Gross program savings after applying adjustments based on all evaluation findings	Evaluation-adjusted ex post gross savings
5	Gross Savings	Research Findings gross realization rate	Research	Research findings gross / ex-ante gross	Realization rate
6	Gross Savings	Evaluation-Adjusted gross savings	Non-Deemed	Gross program savings after applying adjustments based on all evaluation findings	Evaluation-adjusted ex post gross savings
7	Gross Savings	Gross realization rate	Non-Deemed	Evaluation-Adjusted gross / ex-ante gross	Realization rate
1	Net Savings	Net-to-Gross Ratio (NTGR)	Verification and Research	1 – Free Ridership + Spillover	NTG, Attribution
2	Net Savings	Verified net savings	Verification	Verified gross savings times NTGR	Ex post net
3	Net Savings	Research Findings net savings	Research	Research findings gross savings times NTGR	Ex post net
4	Net Savings	Evaluation Net Savings	Non-Deemed	Evaluation-Adjusted gross savings times NTGR	Ex post net
5	Net Savings	Ex-ante net savings	Verification and Research	Savings as recorded by the program tracking system, after adjusting for realization rates, free ridership, or spillover and any other factors the program may choose to use.	Program-reported net savings

‡ "Energy" and "Demand" may be inserted in the phrase to differentiate between energy (kWh, Therms) and demand (kW) savings.

† **Verification** = Verified Savings; **Research** = Impact Evaluation Research Findings; **Non-Deemed** = impact findings for programs without deemed parameters. We anticipate that any one report will either have the first two terms or the third term, but never all three.
§ Terms in this column are not mutually exclusive and thus can cause confusion. As a result, they should not be used in the reports (unless they appear in the "Terms to be Used in Reports" column).

Individual Values and Subscript Nomenclature

The calculations that compose the larger categories defined above are typically composed of individual parameter values and savings calculation results. Definitions for use in those components, particularly within tables, are as follows:

Deemed Value – a value that has been assumed to be representative of the average condition of an input parameter and documented in the Illinois TRM or ComEd's approved deemed values. Values that are based upon a deemed measure shall use the superscript "D" (e.g., delta watts^{D}, HOU-Residential^{D}).

Non-Deemed Value – a value that has not been assumed to be representative of the average condition of an input parameter and has not been documented in the Illinois TRM or ComEd's approved deemed values. Values that are based upon a non-deemed, researched measure or value shall use the superscript "E" for "evaluated" (e.g., delta watts^{E}, HOU-Residential^{E}).

Default Value – when an input to a prescriptive saving algorithm may take on a range of values, an average value may be provided as well. This value is considered the default input to the algorithm, and should be used when the other alternatives listed for the measure are not applicable. This is designated with the superscript "DV" as in X^{DV} (meaning "Default Value").

Adjusted Value – when a deemed value is available and the utility uses some other value and the evaluation subsequently adjusts this value. This is designated with the superscript "AV" as in X^{AV}

Glossary Incorporated From the TRM

Below is the full Glossary section from the TRM Policy Document as of October 31, 2012[17].

Evaluation: Evaluation is an applied inquiry process for collecting and synthesizing evidence that culminates in conclusions about the state of affairs, accomplishments, value, merit, worth, significance, or quality of a program, product, person, policy, proposal, or plan. Impact evaluation in the energy efficiency arena is an investigation process to determine energy or demand impacts achieved through the program activities, encompassing, but not limited to: *savings verification*, *measure level research*, and *program level research*. Additionally, evaluation may occur outside of the bounds of this TRM structure to assess the design and implementation of the program.

Synonym: **Evaluation, Measurement and Verification (EM&V)**

[17] IL-TRM_Policy_Document_10-31-12_Final.docx

Measure Level Research: An evaluation process that takes a deeper look into measure level savings achieved through program activities driven by the goal of providing Illinois-specific research to facilitate updating measure specific TRM input values or algorithms. The focus of this process will primarily be driven by measures with high savings within Program Administrator portfolios, measures with high uncertainty in TRM input values or algorithms (typically informed by previous savings verification activities or program level research), or measures where the TRM is lacking Illinois-specific, current or relevant data.

Program Level Research: An evaluation process that takes an alternate look into achieved program level savings across multiple measures. This type of research may or may not be specific enough to inform future TRM updates because it is done at the program level rather than measure level. An example of such research would be a program billing analysis.

Savings Verification: An evaluation process that independently verifies program savings achieved through prescriptive measures. This process verifies that the TRM was applied correctly and consistently by the program being investigated, that the measure level inputs to the algorithm were correct, and that the quantity of measures claimed through the program are correct and in place and operating. The results of savings verification may be expressed as a program savings realization rate (verified ex post savings / ex ante savings). Savings verification may also result in recommendations for further evaluation research and/or field (metering) studies to increase the accuracy of the TRM savings estimate going forward.

Measure Type: Measures are categorized into two subcategories: custom and prescriptive.

Custom: Custom measures are not covered by the TRM and a Program Administrator's savings estimates are subject to retrospective evaluation risk (retroactive adjustments to savings based on evaluation findings). Custom measures refer to undefined measures that are site specific and not offered through energy efficiency programs in a prescriptive way with standardized rebates. Custom measures are often processed through a Program Administrator's business custom energy efficiency program. Because any efficiency technology can apply, savings calculations are generally dependent on site-specific conditions.

Prescriptive: The TRM is intended to define all prescriptive measures. Prescriptive measures refer to measures offered through a standard offering within programs. The TRM establishes energy savings algorithm and inputs that are defined within the TRM and may not be changed by the Program Administrator, except as indicated within the TRM. Two main subcategories of prescriptive measures included in the TRM:

Fully Deemed: Measures whose savings are expressed on a per unit basis in the TRM and are not subject to change or choice by the Program Administrator.

Partially Deemed: Measures whose energy savings algorithms are deemed in the TRM, with input values that may be selected to some degree by the Program Administrator, typically based on a customer-specific input.

In addition, a third category is allowed as a deviation from the prescriptive TRM in certain circumstances, as indicated in Section 3.2:

> **Customized basis:** Measures where a prescriptive algorithm exists in the TRM but a Program Administrator chooses to use a customized basis in lieu of the partially or fully deemed inputs. These measures reflect more customized, site-specific calculations (e.g., through a simulation model) to estimate savings, consistent with Section 3.2.

5.2 *Detailed Impact Results*

5.2.1 Evaluation Research Findings Net Savings Parameters

The calculation of the program's Net-to-Gross Ratio (NTGR) is a multi-step process. The NTGR was assessed using a customer self-report approach using data collected during participant phone surveys. The survey covers a battery of questions used to assess the net-to-gross ratio for a specific project. Responses from the survey are used to calculate a Program Components score, a Program Influence score and a No-Program score for each project covered through the survey. These three scores can take values of 0 to 10 where a lower score indicates a higher level of free-ridership. The calculation then averages those three scores to come up with a project-level net-to-gross ratio. Furthermore, telephone surveys were completed for a total of 63 projects to address evaluation process and net-to-gross objectives in PY4. An attempt was made to complete telephone surveys for all (33) PY4 gross M&V sample points, yielding a nested sample of 22 points. The PY4 project-specific NTGRs are shown in Table 5-1.

Table 5-1. PY4 NTGR Results for the Selected Custom Sample

Project ID*	Sampling stratum	Project Specific NTGR	Sample-Based Research Findings kWh NTGR	Sample-Based Research Findings kW NTGR
PY4 - 01**	1	0.62	0.65	0.76
PY4 - 02**	1	0.72		
PY4 - 03**	1	0.70		
PY4 - 04**	1	0.93		
PY4 - 05**	1	0.82		
PY4 - 06**	1	0.06		
PY4 - 07**	2	0.53	0.61	0.60
PY4 - 08**	2	0.80		
PY4 - 09**	2	0.47		
PY4 - 10**	2	0.25		
PY4 - 11**	2	0.15		
PY4 - 12**	2	0.10		
PY4 - 13**	2	0.75		
PY4 - 14	2	0.60		
PY4 - 15	2	0.72		
PY4 - 16	2	0.81		
PY4 - 17	2	0.13		
PY4 - 18	2	0.70		
PY4 - 19	2	0.80		
PY4 - 20	2	0.88		
PY4 - 21	2	0.71		
PY4 - 22	2	0.53		
PY4 - 23**	2	0.48		
PY4 - 24**	2	0.83		
PY4 - 25**	2	0.81		
PY4 – 26	2	0.47		
PY4 - 27	3	1.00	0.60	0.66
PY4 - 28	3	0.25		
PY4 - 29	3	0.80		
PY4 - 30	3	0.83		
PY4 - 31	3	0.75		
PY4 - 32	3	0.62		
PY4 - 33	3	0.83		
PY4 - 34	3	0.75		
PY4 - 35**	3	0.58		
PY4 - 36	3	0.20		
PY4 - 37	3	0.53		
PY4 - 38	3	0.47		
PY4 - 39	3	0.48		
PY4 - 40	3	0.65		
PY4 - 41	3	0.83		
PY4 - 42	3	0.13		
PY4 - 43**	3	0.50		
PY4 - 44**	3	0.51		
PY4 - 45	3	0.84		
PY4 - 46	3	0.48		
PY4 - 47	3	0.74		
PY4 - 48	3	0.53		
PY4 - 49	3	1.00		
PY4 - 50	3	0.91		
PY4 - 51	3	0.72		
PY4 - 52**	3	0.50		
PY4 - 53	3	0.13		
PY4 - 54	3	0.77		
PY4 - 55	3	0.62		
PY4 - 56**	3	0.49		
PY4 - 57	3	0.58		
PY4 - 58**	3	0.63		
PY4 - 59	3	0.33		
PY4 - 60	3	0.62		
PY4 - 61	3	0.77		
PY4 - 62	3	0.80		
PY4 - 63	3	0.22		

Source: EM&V analysis
** Actual Project IDs are not provided to protect customer confidentiality*
***Overlaps with gross impact sample*

The separate ratio estimation technique was used to estimate NTGR for the program. The separate ratio estimation technique follows the steps outlined in the California Evaluation Framework. The standard error was used to estimate the error bound around the estimate of verified evaluation NTGR. The program level NTGR, along with precision estimates, is shown in Table 5-2 (kWh impacts) and in Table 5-3 (kW impacts).

A quantification of spillover was not included in the calculation of NTGR for PY4. However spillover effects were examined in this evaluation and their magnitude was found to be quite small as discussed below.

Table 5-2. kWh NTGR and Relative Precision at 90% Confidence Level

Sampling Strata	Relative Precision ± %	Low NTGR	Mean NTGR	High NTGR
1	0%	0.65	0.65	0.65
2	3%	0.59	0.61	0.63
3	10%	0.54	0.60	0.66
1, 2, 3 (All)	**4%**	**0.59**	**0.61**	**0.64**

Source: EM&V analysis

Table 5-3. kW NTGR and Relative Precision at 90% Confidence Level

Sampling Strata	Relative Precision ± %	Low NTGR	Mean NTGR	High NTGR
1	0%	0.76	0.76	0.76
2	5%	0.57	0.60	0.63
3	9%	0.60	0.66	0.72
1, 2, 3 (All)	**4%**	**0.62**	**0.64**	**0.67**

Source: EM&V analysis

The Evaluation Research Findings PY4 kWh NTGR of 0.61 was higher than in PY3 of 0.56, meaning free-ridership was lower. The NTGR scores for the three sampling strata were 0.65 for stratum 1 (large sized projects), 0.61 for stratum 2 (medium sized projects) and 0.60 for stratum 3 (small sized projects) which indicates the free-ridership levels for the three different sizes of projects were relatively similar.

Significant free-ridership (above 40%) was found in 29 out of 63 evaluated projects, of which 11 projects had a resulting NTGR below 0.30. One large project (stratum 1) with substantial free-ridership had very low Program Influence[18] and No-Program[19] scores resulting in the NTGR of 0.06. The other ten projects with substantial free-ridership all had No-Program scores of 3 or lower (on a scale of 0 to 10).

[18] A Program Influence score reflects the degree of influence the program had on the customer's decision to install the specified measures.

[19] A No-Program score captures the likelihood of various actions the customer might have taken at this time and in the future if the program had not been available.

Projects with the lowest No-Program scores tend to have lower NTG ratios, while those with higher No-Program scores have NTG ratios that are among the highest. For example, all projects with No-Program scores of 3 or lower have NTG ratios that are somewhat low, below 0.5. The average NTGR across all of these projects is 0.26. In contrast, the mean NTGR in the group with a No-Program score of 9 or greater is 0.76.

Relatively high and relatively low NTG scores in the sample are not directly affected to the same extent by the Program Influence and Program Components[20] score. That is, the correlation between the Program Influence and Program Components scores and resulting NTG is not as significant as is the correlation with the No-Program score.

Program influence was low for a number of different reasons. In a few cases (for 12 out the 63 evaluated projects), participants report that program implementers arrived late in the decision making process and offered incentives for projects that had already been decided upon. We also found several cases (for 18 out the 63 evaluated projects) where the customer reported that they would have installed the same equipment at the same time in the absence of the program incentives.

Key Findings and Recommendations

Finding. Free-ridership levels for PY4 Custom program are 39%, which is an improvement from 44% in PY3. However, significant free-ridership of above 40% was found in 29 out of 63 evaluated projects. Program influence was low for a number of different reasons. In some cases (about 20% of the evaluated projects), participants report that program implementers arrived late in the decision making process and offered incentives for projects that had already been decided upon. We also found several cases (about 30% of the evaluated projects) where the customer reported that they would have installed the same equipment at the same time in the absence of the program incentives.

- **Recommendation**. The decrease in the free ridership levels in PY4 compared to the PY3 levels is a good sign but the program should attempt to further decrease the free ridership levels. The program should attempt to minimize cases where the customer has already decided to install the same equipment at the same time in the absence of program incentives. The program implementer should interview the project decision maker to check how the program is influencing the customer's selection of equipment and also to verify if the program is significantly accelerating implementation of the project.
- **Recommendation.** Additionally, ComEd is considering tying performance of the program implementation staff (or implementer in general) not only with the gross impact but also with the verified net savings. Tying performance to verified net savings should also help decrease free-ridership levels.

[20] A Program Components score reflects the importance of various program and program-related elements in the customer's decision and timing of the decision in selecting specific program measures.

Spillover

Spillover effects were addressed qualitatively in the PY4 evaluation, based on responses to a battery of spillover questions in the telephone survey. The evidence of spillover for the Custom program is presented in Table 5-4 below.

Table 5-4. Evidence of Spillover in PY4

Spillover Question	Evidence of Spillover
Since your participation in the ComEd program, did you implement any additional energy efficiency measures at this facility that did NOT receive incentives through any utility or government program?	Of the 63 surveyed customers that responded to this question, 26 said "Yes" (41%). These 26 respondents implemented a total of 36 energy efficiency measures. Two respondents were unable to elaborate surrounding the measure installed.
What type of energy efficiency measure was installed without an incentive?	(11) Lighting Measures (5 LED lamps, 2 T-5 lamps, 1 CFL, 1 emergency lighting, 1 LED traffic signal, 1 low wattage metal halide lamps) (8) HVAC measures (2 Boiler economizers, 2 VFDs on HVAC motors, 1 programmable thermostat, 2 Unitary/Split AC Systems, 1 Boilers) (4) Lighting Controls (2 occupancy sensors, 1 time clock on lighting) (3) Energy Management System/Building Automation System/Intelligent power distribution system (2) Blast fan motor for process freezer (1) Motor (1) Pump (1) Large ceiling fan (1) Cooler (1) Oven (affecting gas consumption) (1) Improve the oxidizer (1) Water reduction program (1) Ammonia refrigeration system
On a scale of 0 to 10, where 0 means "not at all significant" and 10 means "extremely significant," how significant was your experience in the ComEd program in your decision to implement this energy efficiency measures?	For the 36 implemented measures: (19) Rating between 0 and 3 (7) Rating between 4 and 6 (5) Rating between 7 and 10 (5) Refused/Don't know

Spillover Question	Evidence of Spillover
If you had not participated in the ComEd program, how likely is it that your organization would still have implemented this measure? Use a 0 to 10, scale where 0 means you definitely would NOT have implemented this measure and 10 means you definitely WOULD have implemented this measure?	For the 36 implemented measures: (3) Rating between 0 and 3 (5) Rating between 4 and 6 (22) Rating between 7 and 10 (6) Refused/Don't know
Why did you purchase this energy efficiency measure without the financial assistance available through the ComEd's program?	For the 36 implemented measures: (12) No program offers this measure/gas measure (10) Rebate too small/Wasn't worth the time (4) Project was too small (2) Not enough time/needed measure ASAP (2) "We didn't qualify" (6) Don't know

Source: EM&V analysis

These findings suggest that spillover effects for PY4 are relatively small. While participating customers are installing other energy efficiency improvements outside of the program, they attribute little influence to the program in their decision to install these additional measures and further state that these actions generally would have been implemented regardless of their program participation experiences. In addition, the respondents indicated that they did not pursue rebates through the ComEd program due to the lack of a program offering for the measure they installed or that the rebate amount was too small to spend their time on the application process. The evaluation team will likely collect spillover data in this same manner for the PY5 evaluation. The decision to conduct additional evaluation activities to quantify spillover in PY5 will be examined as part of the evaluation planning effort.

5.2.2 Evaluation Research Findings Net Program Impact Results

Net program impacts were derived by multiplying Evaluation Research Findings gross program savings by the Evaluation Research Findings Net-to-Gross Ratio (NTGR. Table 5-5 and Table 5-6 provide the program-level Evaluation Research Findings net impact results for the PY4 Custom program. The Research Findings gross realization rate for energy savings is 0.80, while the realization rate for demand is 0.93 is based on the M&V analysis conducted for the projects in the sample. The Evaluation Research Findings NTGR for energy savings is 0.61 and for demand savings is 0.64, and is based upon responses from each contributing participant in the sample (and other sources) and the use of kWh-based weights. The chained realization rate (gross RR * NTGR) is 0.49 for kWh and 0.60 for kW.

Table 5-5. Program-Level Evaluation Research Findings Net kWh Impacts for PY4

Sampling Strata	Ex Ante Gross kWh	Research Findings Gross kWh	Research Findings kWh RR	Research Findings Net kWh	Research Findings NTGR
1	6,618,195	5,322,890	0.80	3,486,373	0.65
2	18,063,300	15,543,953	0.86	9,467,784	0.61
3	14,688,426	10,570,037	0.72	6,373,515	0.60
Total	**39,369,921**	**31,436,881**	**0.80**	**19,327,673**	**0.61**

Source: EM&V analysis

Table 5-6. Program-Level Evaluation Research Findings Net kW Impacts for PY4

Sampling Strata	Ex Ante Gross kW	Research Findings Gross kW	Research Findings kW RR	Research Findings Net kW	Research Findings NTGR
1	327	417	1.28	317	0.76
2	1,459	1,708	1.17	1,029	0.60
3	1,298	733	0.56	485	0.66
Total	**3,084**	**2,858**	**0.93**	**1,832**	**0.64**

Source: EM&V analysis

5.2.3 Process Evaluation Results

5.2.3.1 Participation Profile

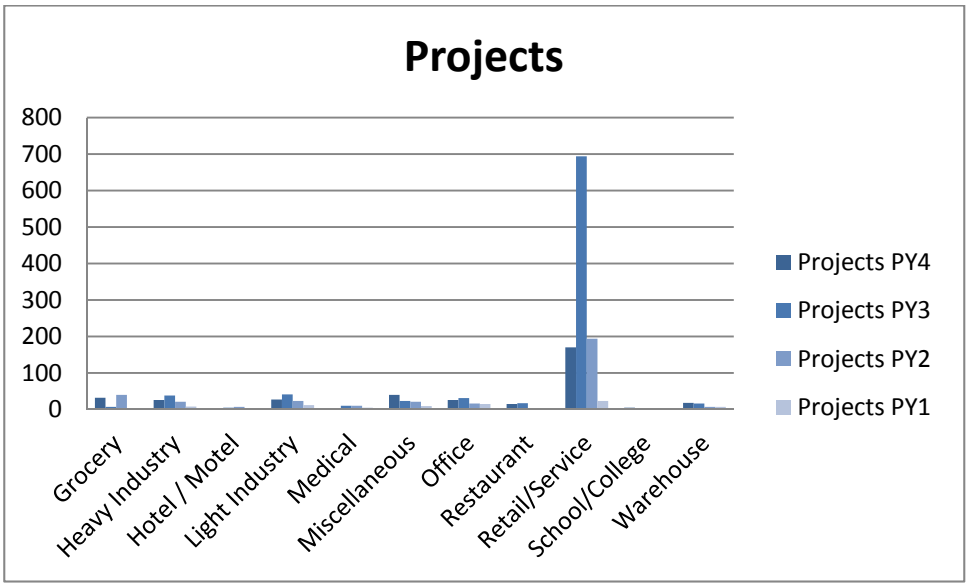
Participation in the Custom program for PY4 was significantly lower than in previous years. In PY3, the program's ex-ante savings was 55,555,278 kWh and in PY4 it was 39,369,921 kWh; this represents almost a 30% decrease in ex-ante energy savings. The number of projects completed has decreased by almost 60% and the average project size is down 27% compared to PY3. It is difficult to pinpoint the exact cause of this decline but it could be due to the fact that ComEd has introduced new program elements to address things like compressed air, which would have traditionally been handled by the Custom program. Additionally, the program manager reported that the Custom program often feeds technologies and projects that are replicable into the prescriptive program. Table 5-7 summarizes the distribution of PY4 participants, projects, and energy savings by business sector and the following figures (5-1 through 5-5) illustrate year to year trends.

Table 5-7. Participants, Projects, and Ex Ante Gross Savings by Business Sector

Sector	Participants		Projects		Projects / Participant	Ex Ante Gross Energy Savings		kWh / Project	Ex Ante Gross Demand Savings	
	#	%	#	%		kWh	%		kW	%
Warehouse	17	8%	18	5%	1.06	5,128,789	2%	284,933	470	15%
Light Industry	26	12%	27	7%	1.04	4,180,016	11%	154,815	503	16%
Retail/Service	45	20%	170	47%	3.78	7,686,964	20%	45,217	916	30%
Office	22	10%	26	7%	1.18	4,700,010	12%	180,770	154	5%
Miscellaneous	34	15%	40	11%	1.18	4,178,318	11%	104,458	276	9%
Heavy Industry	24	11%	26	7%	1.08	9,319,744	24%	358,452	600	19%
Medical	4	2%	4	1%	1.00	246,046	11%	61,511	49	2%
Grocery	28	13%	32	9%	1.14	2,607,244	7%	81,476	23	1%
Hotel/Motel	2	1%	2	1%	1.00	66,565	<1%	33,283	8	<1%
School/College	5	2%	5	1%	1.00	701,429	2%	140,286	57	2%
Restaurant	15	7%	15	4%	1.00	554,797	1%	32,635	29	1%
TOTAL	**222**		**365**			**39,369,921**			**3,084**	

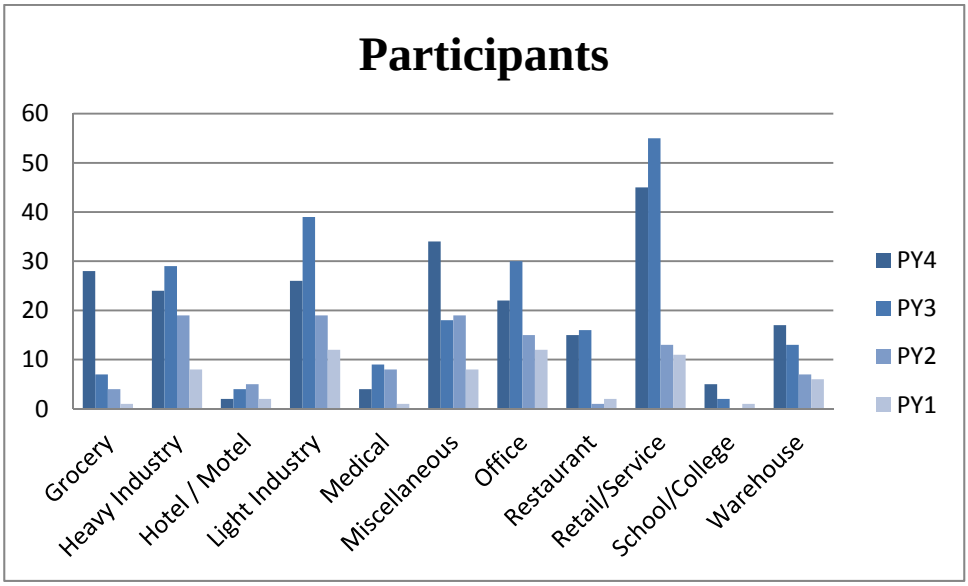
Source: EM&V analysis based on ComEd tracking database, September 25, 2012.

Figure 5-1. Projects by Business Sector and Program Year



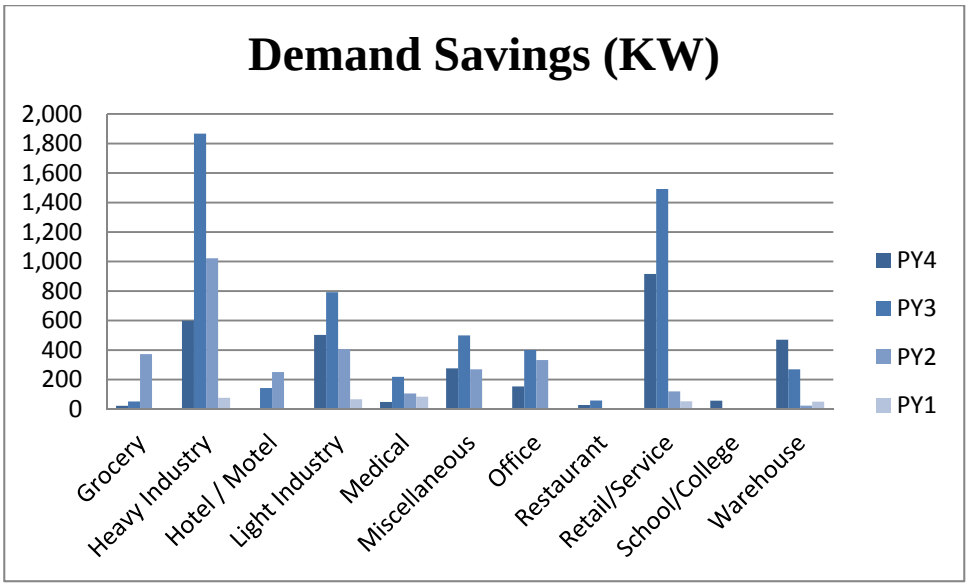
Source: EM&V analysis based on ComEd tracking database, September 25, 2012

Figure 5-2. Participants by Business Sector and Program Year



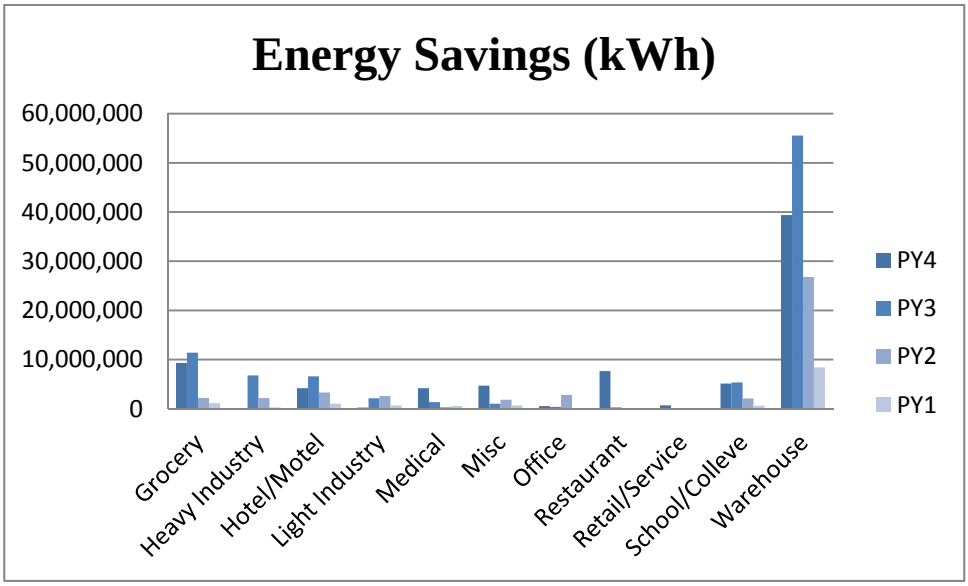
Source: EM&V analysis based on ComEd tracking database, September 25, 2012

Figure 5-3. Ex Ante Gross Demand Savings by Business Sector and Program Year



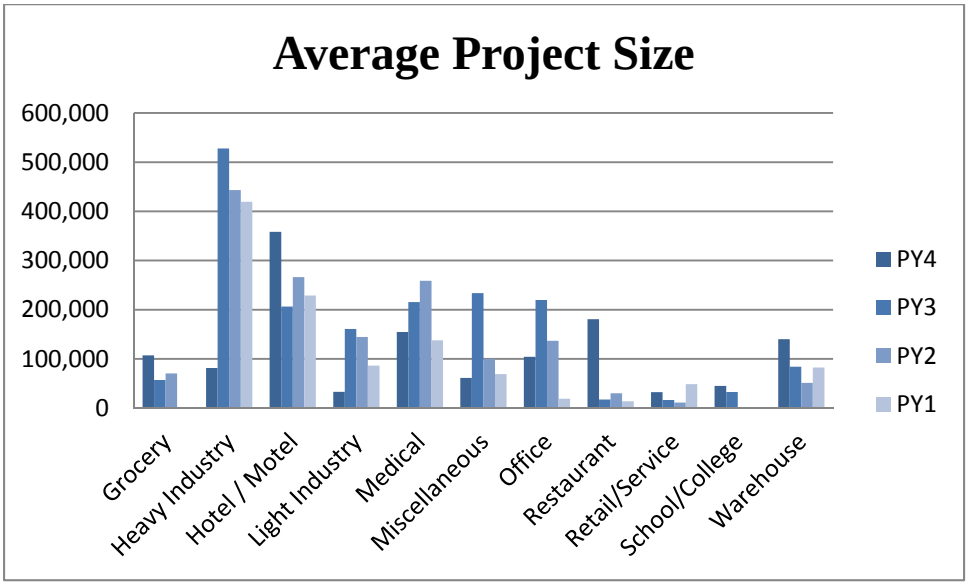
Source: EM&V analysis based on ComEd tracking database, September 25, 2012

Figure 5-4. Ex Ante Gross Energy Savings by Business Sector and Program Year



Source: EM&V analysis based on ComEd tracking database, September 25, 2012

Figure 5-5. Average Project Size by Business Sector and Program Year



Source: EM&V analysis based on ComEd tracking database, September 25, 2012

Key observations that can be drawn from these figures are listed below:

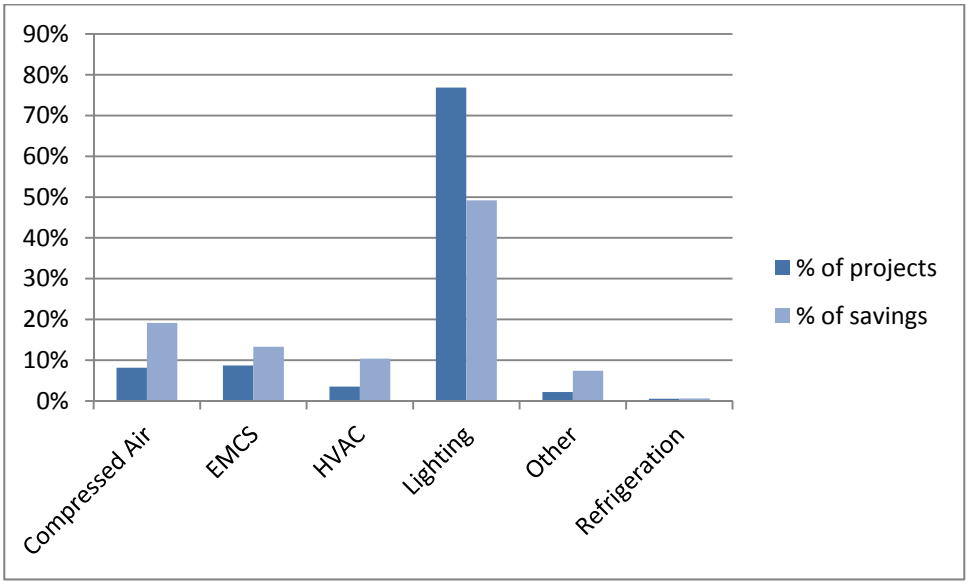
- The heavy industry sector contributed the most energy savings in PY4; roughly 24%. This is followed by the Retail/Service sector with 20%. Those two sectors combined contribute to almost half (44%) of the total program energy savings.
- The largest average kWh per project occurred in the Heavy Industry/Warehouse sector.

- The most significant change in the number of projects occurred in the Retail/Service sector. In PY3, there were 694 projects and in PY4 there were 170. This represents a 76% decline year-over-year.
- 20% of the program participants for PY4 came from the Retail/Service sector. In PY3, this sector contributed to 78.5% of the savings for the Custom program overall; this year the percentage is down to 46.6%.
- The highest demand savings came from the Retail/Service sector; with about 30% of the KW; followed by 19% for the Heavy Industry sector. In PY3 the Retail/Service sector contributed to 25.7% and the Heavy Industry sector contributed to 32% of the savings.

End Uses

The Custom program continues to be dominated by lighting projects. Roughly 77% of the projects completed are categorized as lighting. Lighting also accounted for about 50% of the ex-ante kWh claimed by the program. The next most popular Custom measure category is energy management control systems which accounted for 9% of the projects completed followed by compressed air which accounted for 8%. Compressed air contributed to almost 20% of the energy savings, followed by energy management control systems which contributed about 13%.

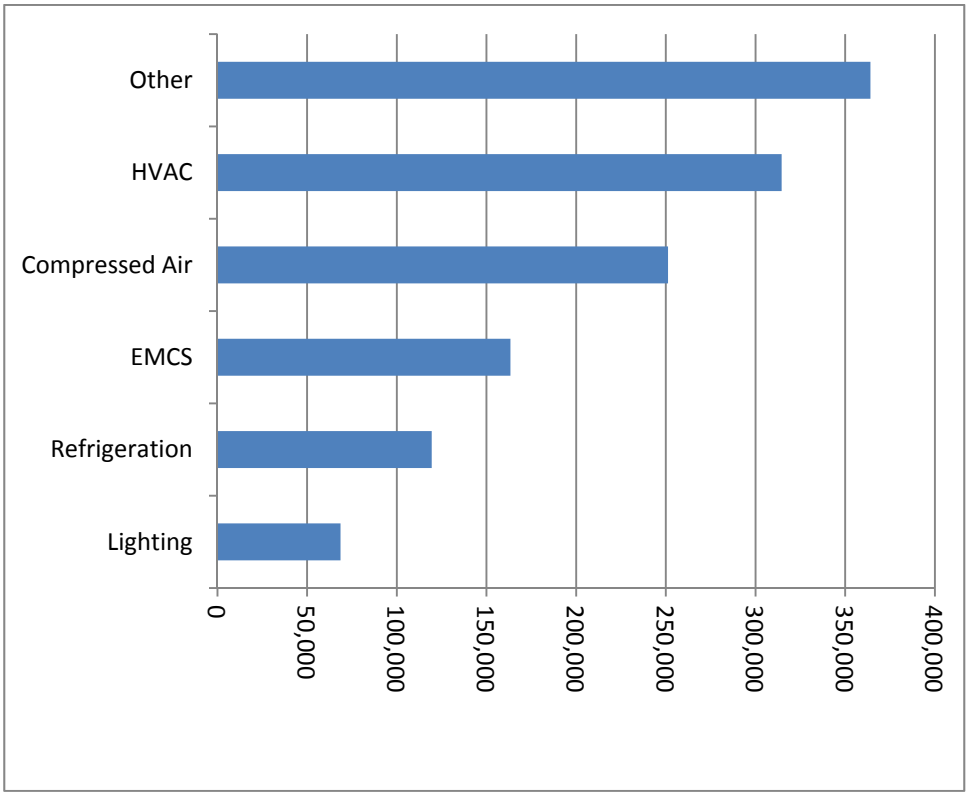
Figure 5-6. Projects and Savings by End Use



Source: EM&V analysis based on ComEd tracking database, September 25, *2012*

Lighting projects contributed the smallest per project savings in the Custom portfolio (68,666 kWh), followed by refrigeration (119,448 kWh). The largest contributors to energy savings on a per project basis were HVAC and the "Other" category with 314,549 kWh and 364,109 kWh respectively.

Figure 5-7. Average kWh per project



Source: EM&V analysis based on ComEd tracking database, September 25, *2012*

5.2.3.2 Request for Incentives Program

In PY4, ComEd introduced a new Custom program offering whereby customers could propose a project and affiliated incentive to ComEd. The goal of the program was to offer customers and trade allies more flexibility to propose projects that might be require a 20-40% higher incentive than what the program currently offers. During the program manager interview, ComEd program managers reported that all of the requests they received from trade allies were far above the standard rate of $0.07/kWh (which was boosted to $0.08/kWh in PY4). Program managers reported that all but one of the projects they initially received were between $0.18 and $0.62/kWh. They did receive one project that was reasonably close to the intended $/kWh target of the program. This project was very close to the standard Custom rate and was processed as a Custom application; the rest were rejected. Program managers reported that, as a result, the program is being transitioned and will be re-launched at a later date.

It is important to note that the program managers did report that there were a number of valuable insights that were gained through the introduction of this offering and the subsequent market response. For example, the applications they received through the program lacked the technical detail necessary to evaluate the projects. Additionally, though the RFI process the program staff realized that it was beneficial to the program to pair the customers up with the "Technical Assistance Providers" (TSPs) in order to shepherd projects to completion.

A detailed process evaluation of this program element was not conducted as the program was already transitioning away from the offering at the time of this evaluation.

5.2.3.3 Account Manager Engagement

The account managers had two goals during PY4. For the first half of PY4 (June-December, 2011), they were required to present a slide deck about the Smart Ideas program to all of their Tier 1 customers[21], during the second half of PY4 they had the goal of bringing opportunity assessments into the program. During our interviews with 11 account managers we asked them about their experiences promoting the program to their customers, their goals and any recommendations for the future.

Promoting the Program to Customers

Overall, account managers report already feeling that they have the tools and materials necessary to promote the Smart Ideas for Your Business Program. Account managers were largely divided on how best to contact customers with e-mail (36%) and in-person meetings (36%) being the most frequently mentioned responses. Generally, account managers reported in-person meetings to be more common among larger Tier 1 and 2 customers; however, e-mail contact seems to be useful across the board due to its ease of use.

When asked about recommendations for how to better promote the program to customers, many account managers cited the importance of high-quality hand-outs to provide to customers, in addition to expanding webinar offerings and case studies. Overall, three-quarters (73%) feel that the marketing materials are very useful. However, one recurring theme throughout the interviews was the need to tailor the program messages and materials to customer segments. Account managers reported that they use case studies to relate the program results to their customers. One account manager noted that case studies:

"Help the customer see what their peer group is doing".

Similarly, when asked about the Lunch-and-Learns, account managers pointed to tips on selling to specific customer segments, program awareness, and internal resources as useful educational aspects of the Lunch-and-Learn presentations, which were then used as a part of the program selling process. Account managers still feel that the lunch and learns are useful; a third indicated they are "very" useful and the other two thirds reported they were "somewhat" useful.

Less than a third (27%) of account mangers felt they were very familiar with the trade ally network. Generally, account managers reported rarely or never reaching out to the trade ally network to help a customer complete a project, preferring to work with internal staff or KEMA representatives. One account manager said:

"I specifically try to work almost exclusively internally. When I start working with trade allies, there are people internally within our marketing department or KEMA that I hand that off to".

Awareness of program participation was high among account managers with two-thirds (64%) claiming to be very aware of their customers' participation in the program. That said 90% of those interviewed felt

[21] ComEd has three tiers of managed customer accounts. Tier 1 customers represent the largest managed accounts.

that their current process of tracking contact with customer leads was working effectively. Nearly all (91%) reported that the weekly updates were useful in tracking customer participation; however, slightly less (82%) felt that the updates provided enough information about their customers.

Smart Ideas Presentation Goal

As mentioned earlier, account managers had goals for presenting a slide deck about the program to their Tier 1 customers. When we asked account managers about this goal, several account managers indicated that it was difficult to get adequate time with the customer to present the whole deck and that the slide deck had too much detail for the audience. The account managers recommended tailoring the message of the slide deck presentation specifically to their customer segments. This relates to the findings on program promotion overall as well:

"Bring it down to a level that relates to that specific industry/customer class I think that would be something that would maybe get their attention".

"It is wonderful to have a slide deck, but …it needs to be more of a Custom approach to each customer as far as what makes the most sense and [account managers] are in the position to make that decision individually".

Smart Ideas Opportunity Assessment Goal

As for the goal of bringing more Smart Ideas Opportunity Assessments into the program, the account managers reported that often the challenge is in asking the customer to provide data about their facility in order to complete the report. One account manager reported:

"When we get out with customers, it's one thing to get them to agree to do the assessment we reach a different set of challenges when it comes to contacting the engineer and trying to schedule and getting onsite. Once we accomplish that obstacle then if the customer is responsible for getting us data sets to complete a report I've had a couple of challenges with customers there where the whole thing stalls at that point".

In terms of program feedback, account managers reported that their customers seem to be mostly happy with the program and with saving money. One account manager said:

"Those who participated have been very pleased. They have good feedback about the engineers, if they have an assessment, and they all appreciated the energy savings".

5.3 *Detailed Evaluation Methods*

5.3.1 Research Findings Net Impact Evaluation Methods

The primary objective of the net savings analysis for the Custom program was to determine the program's net effect on customers' electricity usage. After gross program impacts have been assessed, net program impacts are derived by estimating a Net-to-Gross Ratio (NTGR) that quantifies the percentage of the gross program impacts that can reliably be attributed to the program. A customer self-report method, based on data gathered during participant phone surveys, was used to estimate the NTGR for this evaluation.

For PY4, the net program impacts were quantified solely on the estimated level of free-ridership. This requires estimating what would have happened in the absence of the program. The scoring approach used to calculate free-ridership from data collected through participant phone surveys is summarized in Table 5-8.

Once free-ridership has been estimated the Net-to-Gross Ratio (NTGR) is calculated as follows:

NTGR = 1 – Free-ridership Rate

The existence of participant spillover was examined in PY4 but no significant spillover activity was reported by participants, and therefore, quantification was not warranted.

Table 5-8. Basic Net-to-Gross Scoring Algorithm for the PY4 Custom Program

Scoring Element	Calculation
Program Components score. The maximum score (on a scale of 0 to 10 where 0 equals not at all influential and 10 equals very influential) among the self-reported influence level the program had for: A. Availability of the program incentive B. Technical assistance from utility or program staff C. Recommendation from utility or program staff D. Information from utility or program marketing materials E. Endorsement or recommendation by a utility account rep	Maximum of A, B, C, D, and E
Program Influence score. "If you were given a TOTAL of 100 points that reflect the importance in your decision to implement the <ENDUSE>, and you had to divide those 100 points between: 1) the program and 2) other factors, how many points would you give to the importance of the PROGRAM?"	Points awarded to the program (divided by 10) Divide by 2 if the customer learned about the program AFTER deciding to implement the measure that was installed

Scoring Element	Calculation
No-Program score. "Using a likelihood scale from 0 to 10, where 0 is "Not at all likely" and 10 is "Extremely likely", if the utility program had not been available, what is the likelihood that you would have installed exactly the same equipment?" Adjustments to the "likelihood score" are made for timing: "Without the program, when do you think you would have installed this equipment?" Free-ridership diminishes as the timing of the installation without the program moves further into the future.	Interpolate between No Program Likelihood Score and 10 where "At the same time" or within 6 months equals No Program score, and 48 months later equals 10 (no free-ridership)
Project-level Free-ridership (ranges from 0.00 to 1.00)	1 – Sum of scores (Program Components, Program Influence, No-Program)/30
PY4 Project level Net-to-Gross Ratio (ranges from 0.00 to 1.00)	1 – Project level Free-ridership
Apply score to other end-uses within the same project?	If yes, assign score to other end-uses of the same project
Apply score to other projects of the same end-use?	If yes, assign score to same end-use of the additional projects

5.3.2 Process Evaluation Methods

Phone Survey with Custom Program Participants

A telephone survey was conducted with a stratified sample of Custom Program participants. A census was attempted with Stratum 1 and 2 participants because there were relatively few of them and they accounted for most of the energy savings. This survey focused on two key areas: (1) questions to estimate net program impacts and (2) a subset of questions to support the process evaluation. All CATI surveys were completed in August and September 2012.

The telephone survey was directed toward unique customer contact names drawn from the tracking system for PY4 paid Custom projects. The survey data collected supports PY4 free-ridership estimation (to be used prospectively), process evaluation inputs (including business demographics), and a qualitative assessment of spillover.

Program Staff Interviews

The evaluation team conducted one call with the Program Manager of the Custom Program and other senior ComEd staff. This call covered key changes to the program design and implementation for PY4. Additionally interviews were conducted with staff members at KEMA responsible for program implementation and marketing strategies.

Trade Ally Interviews

We interviewed 27 trade allies as part of the PY4 evaluation. The interviews focused on (1) how the Smart Ideas for Your Business Program has affected business practices and market trends, (2) net-to-gross questions for contractors identified by customers as having had a strong influence in the

implementation of specific PY4 projects, (3) the influence of performance bonus structure on their motivation and ability to complete projects (4) barriers to installation of energy efficient equipment and customer participation in the program, and (5) satisfaction with the program and participation processes.

Interviews with Smart Ideas Opportunity Assessment and Facility Assessment Participants

Interviews were also conducted with participants in ComEd's Smart Ideas Opportunity Assessments and Facility Assessments. These were both new program offerings for PY4 and were designed to help customers identify potential projects. The interviews focused on (1) customer satisfaction with the process for conducting the assessments, (2) the usefulness of the information provided to the customer in the assessment reports and, (3) the potential influence that the audits had with helping the customers implement the projects.

5.4 *Data Collection Instruments*

5.4.1 Phone Survey for Participating Customers

COMED SMART IDEAS FOR YOUR BUSINESS PROGRAM
PARTICIPANT SURVEY – CUSTOM PROJECTS
PY4 Final

INTRODUCTION

[READ IF CONTACT=1]
Hello, this is _____ from Opinion Dynamics calling on behalf of ComEd. This is not a sales call. May I please speak with <PROGRAM CONTACT>?

Our records show that <COMPANY> purchased <ENDUSE>, which was recently installed and received an incentive from ComEd. We are calling to do a follow-up study about <COMPANY>'s participation in this program, which is called the Smart Ideas for Your Business Program. Your answers will provide very important information that will help ComEd improve its program. I was told you're the person most knowledgeable about this project. Is this correct? [IF NOT, ASK TO BE TRANSFERRED TO MOST KNOWLEDGABLE PERSON OR RECORD NAME & NUMBER.]

This survey will take about 20-25 minutes. Is now a good time? [If no, schedule call-back]

[READ IF CONTACT=0]
Hello, this is _____ from Opinion Dynamics calling on behalf of ComEd. I would like to speak with the person most knowledgeable about recent changes in cooling, lighting, or other energy-related equipment for your firm at this location.

[IF NEEDED] Our records show that <COMPANY> purchased <ENDUSE>, which was recently installed and received an incentive from ComEd. We are calling to do a follow-up study about your firm's participation in this program, which is called the Smart Ideas for Your Business Program. Your answers will provide very important information that will help ComEd improve its program. I was told you're the person most knowledgeable about this project. Is that correct? [IF NOT, ASK TO BE TRANSFERRED TO MOST KNOWLEDGABLE PERSON OR RECORD NAME & NUMBER.]

We are interviewing firms that participated in <%PROGRAM> between June 1, 2011 and May 31, 2012 to discuss the factors that may have influenced your decisions to participate in the program. By receiving a rebate of $ <%INCENTIVE> through this program, your organization agreed to participate in this follow@-up study on your experiences with this program.

This survey will take about 20-25 minutes. Is now a good time? [If no, schedule call-back]

SCREENING QUESTIONS

A1. Just to confirm, between June 1, 2011 and May 31, 2012 did <COMPANY> participate in ComEd's Smart Ideas for Your Business Program at <ADDRESS>? (IF NEEDED: This is a program where your business received an incentive for installing one or more energy-efficient products covered under the program.)

1 (Yes, participated as described)
2 (Yes, participated but at another location)
3 (NO, did NOT participate in program)
00 (Other, specify)
98 (Don't know)
99 (Refused)

[SKIP A2 IF A1=1,2]

A2. Is it possible that someone else dealt with the energy-efficient product installation?

1 (Yes, someone else dealt with it)
2 (No)
00 (Other, specify)
98 (Don't know)
99 (Refused)

[IF A2=1, ask to be transferred to that person. If not available, thank and terminate. If available, go back to A1]

[IF A1=2, 3, 00, 98, 99: Thank and terminate. Record dispo as "Could not confirm participation".]

Before we begin, I want to emphasize that this survey will only be about the <ENDUSE> you installed through the Smart Ideas for Your Business Program at <ADDRESS>. [IF NECESSARY, READ PROJECT DESCRIPTION: <PROJDESC>]

PY4 NET-TO-GROSS MODULE

Variables for the net-to-gross module:

<NTG> (B=Basic rigor level, S= Standard rigor level. All questions here are asked if the standard rigor level is designated. Basic rigor level is designated through skip patterns)
Smart Ideas for your Business (ComEd)
<PROGRAM> (Name of energy efficiency program)
<ENDUSE> (Type of measure installed; from program tracking dataset)
<VEND1> (Contractor who installed new equipment, from program tracking dataset)
<TECH_ASSIST> (If participant conducted Feasibility Study, Audit, or received Technical Assistance

through the program; from program tracking database)
<OTHERPTS> (Variable to be calculated based on responses. Equals 1- minus response to N3p.)
<MSAME> (Equals 1 if same customer had more than one project of the same measure type; from program tracking database)
<NSAME> (Number of additional projects of the same measure type implemented by the same customer; from program tracking database)
<FSAME> (Equals 1 if same customer also had a project of a different measure type at the same facility; from program tracking database)
<FDESC> (Type of project of a different measure type at the same facility; from program tracking database)

VENDOR INFORMATION

[SKIP TO V4 IF NTG=B]
I would like to get some information on the VENDORS that may have helped you with the implementation of this equipment.

V1 Did you work with a contractor or vendor that helped you with the choice of this equipment?
1 (Yes)
2 (No)
8 (Don't Know)
9 (Refused)

[SKIP TO V4 IF V1=2, 8, or 9]

V3 Did you also use a DESIGN or CONSULTING Engineer?
1 (Yes)
2 (No)
8 (Don't know)
9 (Refused)

V4 Did your utility account manager assist you with the project that you implemented through the the ComEd Smart Ideas for Your Business Program?Smart Ideas for your Business
1 (Yes)
2 (No, don't have a utility account manager)
3 (No, have a utility account manager but they weren't involved)
8 (Don't know)
9 (Refused)

NET-TO-GROSS BATTERY

I'd now like to ask a few questions about the <ENDUSE> you installed through the program.

A2aa. Did this new energy efficiency equipment that you installed through the program replace existing equipment or was it added to control or work directly with existing equipment?

- 01 Replaced existing equipment
- 02 Added to control or work directly with existing equipment
- 00 Other (record VERBATIM)
- 98 (Don't know)
- 99 (Refused)

N00 In deciding to do a project of this type, there are usually a number of reasons why it may be undertaken. In your own words, can you tell me why you decided to implement this project? Were there any other reasons? (MULTIPLE RESPONSE OF THREE)

DO NOT READ

1 To replace old or outdated equipment
2 As part of a planned remodeling, build-out, or expansion
3 To gain more control over how the equipment was used
4 The maintenance downtime and associated expenses for the old equipment were too high
5 Had process problems and were seeking a solution
6 To improve equipment performance
7 To improve the product quality
8 To comply with codes set by regulatory agencies
9 To comply with company policies regarding regular/normal maintenance/replacement policy
10 To get a rebate from the program
11 To protect the environment
12 To reduce energy costs
13 To reduce energy use/power outages
14 To update to the latest technology
00 Other (RECORD VERBATIM)
98 (Don't know)
99 (Refused)

N1 When did you first learn about ComEd's Smart Ideas for your Business Program? Was it BEFORE or AFTER you first began to THINK about implementing this measure? (NOTE TO INTERVIEWER: "this measure" refers to the specific energy efficient equipment installed through the program.)

1 (Before)
2 (After)
8 (Don't know)
9 (Refused)

[ASK N2 IF N1=2, 8, 9]

N2 Did you learn about ComEd's Program BEFORE or AFTER you DECIDED to implement the measure that was installed? (NOTE TO INTERVIEWER: "the measure" refers to the specific energy efficient equipment installed through the program.)

1 (Before)
2 (After)
8 (Don't know)
9 (Refused)

N3 Next, I'm going to ask you to rate the importance of the program as well as other factors that might have influenced your decision to implement this measure. Think of the degree of importance as being shown on a scale with equally spaced units from 0 to 10, where 0 means not at all important and 10 means extremely important. Now using this scale please rate the importance of each of the following in your decision to implement the measure at this time. [FOR N3a-n, RECORD 0 to 10; 96=Not Applicable; 98=Don't Know; 99=Refused]

(If needed: How important in your DECISION to implement the project was…)

[SKIP N3a IF NTG=B]

N3a. The age or condition of the old equipment

N3b. Availability of the PROGRAM incentive

[ASK IF N3b=8, 9, 10]

N3bb. Why do you give it this rating? [OPEN END; 98=Don't know; 99=Refused]

[SKIP TO N3f IF NTG=B]

[ASK IF <TECH_ASSIST>=1, ELSE SKIP TO N3d]

N3c. Information provided through the technical assistance you received from ComEd or KEMA field staff

[SKIP N3cc IF NTG=B]

[ASK IF N3c=8, 9, 10]

N3cc. Why do you give it this rating? [OPEN END; 98=Don't know; 99=Refused]

[ASK N3d IF V1=1]

N3d. Recommendation from an equipment vendor or contractor that helped you with the choice of the equipment

N3e. Previous experience with this type of equipment

N3f. Recommendation from a ComEd program staff person

[SKIP N3ff IF NTG=B]

[ASK N3ff IF N3f=8, 9, 10]

N3ff. Why do you give it this rating?

N3h. Information from Smart Ideas or ComEd marketing materials

[SKIP N3hh IF NTG=B]

[ASK IF N3h=8, 9, 10]

N3hh. Why do you give it this rating?

[SKIP TO N3k IF NTG=B]

[ASK N3i IF V3=1]

N3i. A recommendation from a design or consulting engineer

N3j. Standard practice in your business/industry

[SKIP N3k IF V4>1]

N3k. Endorsement or recommendation by a ComEd account manager

[SKIP N3kk IF NTG=B]

[ASK IF N3k=8, 9, 10]

N3kk. Why do you say that?

[SKIP TO N3n IF NTG=B]

N3l. Corporate policy or guidelines

N3m. Payback on the investment

N3n. Were there any other factors we haven't discussed that were influential in your decision to install this MEASURE?

00 [Record verbatim]
96 (Nothing else influential)
98 (Don't Know)
99 (Refused)

[ASK N3nn IF N3n=00]

N3nn. Using the same zero to 10 scale, how would you rate the influence of this factor? [RECORD 0 to 10; 98=Don't Know; 99=Refused]

Thinking about this differently, I would like you to compare the importance of the PROGRAM with the importance of other factors in implementing the <ENDUSE> project.

[SKIP TO N3p IF NTG=B]

[READ IF (N3A, N3D, N3E, N3I, N3J, N3L, N3M, OR N3N)=8,9,10; ELSE SKIP TO N3p]
You just told me that the following other factors were important:
[READ IN ONLY ITEMS WHERE THEY GAVE A RATING OF 8 or higher]

(N3A) Age or condition of old equipment,
(N3D) Equipment Vendor recommendation
(N3E) Previous experience with this measure
(N3I) Recommendation from a design or consulting engineer
(N3J) Standard practice in your business/industry
(N3L) Corporate policy or guidelines
(N3M) Payback on investment
(N3N) Other factor

N3p If you were given a TOTAL of 100 points that reflect the importance in your decision to implement the <ENDUSE>, and you had to divide those 100 points between: 1) the program and 2) other factors, how many points would you give to the importance of the PROGRAM? Points given to program: [RECORD 0 to 100; 998=Don't Know; 999=Refused]

[CALCULATE VARIABLE "OTHERPTS" AS: 100 MINUS N3p RESPONSE; IF N3p=998, 999, SET OTHERPTS=BLANK]

N3o And how many points would you give to other factors? [RECORD 0 to 100; 998=Don't Know; 999=Refused] [The response should be <OTHERPTS> because both numbers should equal 100. If response is not <OTHERPTS> ask INC1]

INC1 The last question asked you to divide a TOTAL of 100 points between the program and other factors. You just noted that you would give <N3p RESPONSE> points to the program. Does that mean you would give <OTHERPTS> points to other factors?

1 (Yes)
2 (No)
98 (Don't know)
99 (Refused)

[IF INC1=2, go back to N3p]

CONSISTENCY CHECK ON PROGRAM IMPORTANCE SCORE

[ASK IF (N3p>69 AND ALL OF (N3b, N3c, N3f, N3h, AND N3k)=0,1,2,3), ELSE SKIP TO N4aa]

N4 You just gave <N3p RESPONSE> points to the importance of the program, I would interpret that to mean that the program was quite important to your decision to install this equipment. Earlier, when I asked about the importance of individual elements of the program I recorded some answers that would imply that they were not that important to you. Just to make sure I have recorded this properly, I have a couple questions to ask you.

N4a When asked about THE AVAILABILITY OF THE PROGRAM INCENTIVE, you gave a rating of ...<N3B RESPONSE> ... out of ten, indicating that the program incentive was not that important to you. Can you tell me why the incentive was not that important?

00 [Record VERBATIM]
98 (Don't know)
99 (Refused)

[SKIP N4b IF NTG=B OR<TECH ASSIST>=0]

N4b When I asked you about THE INFORMATION PROVIDED THROUGH THE TECHNICAL ASSISTANCE, you gave a rating of ...<N3C RESPONSE> ... out of ten, indicating that the information provided was not that important to you. Can you tell me why the information provided was not that important?

00 [Record VERBATIM]
98 (Don't know)
99 (Refused)

N4c When I asked you about THE RECOMMENDATION FROM A Smart Ideas for your Business COMED PROGRAM STAFF PERSON, you gave a rating of ...<N3F RESPONSE> ... out of ten, indicating that the information provided was not that important to you. Can you tell me why the information provided was not that important?

00 [Record VERBATIM]
98 (Don't know)
99 (Refused)

N4d When asked about THE INFORMATION from the SMART IDEAS OR COMEDSmart Ideas for your Business MARKETING MATERIALS, you gave a rating of ...<N3H RESPONSE> ... out of ten, indicating that this information from the program or utility marketing materials was not that important to you. Can you tell me why this information was not that important?

00 [Record VERBATIM]
98 (Don't know)
99 (Refused)

[SKIP N4e IF V4>1 or N3k=96,98,99]

N4e When asked about THE ENDORSEMENT or RECOMMENDATION by YOUR UTILTY ACCOUNT MANAGER , you gave a rating of <N3K RESPONSE> ... out of ten, indicating that this Account manager endorsement was not that important to you. Can you tell me why this endorsement was not that important?

00 [Record VERBATIM]
98 (Don't know)
99 (Refused)

[ASK IF N3p<31 AND ANY ONE OF (N3b, N3c, N3f, N3h, OR N3k=8,9,10) ELSE SKIP TO N5]

N4aa You just gave <N3p RESPONSE> points to the importance of the program. I would interpret that to mean that the program was not very important to your decision to install this equipment. Earlier, when I asked about the importance of individual elements of the program I recorded some answers that would imply that they were very important to you. Just to make sure I understand, would you explain why the program was not very important in your decision to install this equipment?

Now I would like you to think about the action you would have taken with regard to the installation of this equipment if the utility program had not been available.

IF A2aa=1 (MEASURE=REPLACEMENT), THEN ASK:

N5 Using a likelihood scale from 0 to 10, where 0 is "Not at all likely" and 10 is "Extremely likely", if the utility program had not been available, what is the likelihood that you would have installed exactly the same equipment? [RECORD 0 to 10; 98=Don't know; 99=Refused]

IF A2aa=2 (MEASURE=ADD-ON) THEN ASK:

N5aa Using a likelihood scale from 0 to 10, where 0 is "Not at all likely" and 10 is "Extremely likely", if **PROGRAM** had **not** been available, what is the likelihood that you would have installed exactly the same item/equipment at the same time as you did? [RECORD 0 to 10; 98=Don't know; 99=Refused]

IF A2aa=1 (MEASURE=REPLACEMENT), THEN ASK:

Next, I'd like to ask a couple of questions to help us estimate at what point in the future you would definitely have replaced your existing equipment. We understand that you can't know exactly when you would have done this, especially so far into the future. We're just trying to get a sense of how long you think the current equipment or process would have kept serving your company's needs before you had to or chose to replace it

N5ab. If the program had not been available, how likely is it that you would have replaced your existing equipment within **one** year of when you did? Would you have definitely, probably, 50-50 chance, probably not or definitely not replaced your existing equipment within one year of when you did?

1 Definitely would have
2 Probably would have
3 50-50 chance
4 Probably not
5 Definitely not
98 (Don't know)
99 (Refused)

IF N5ab=3,4,5 THEN ASK:

N5ac. In the absence of the program, how likely is it that you would have replaced your existing equipment within **three** years of when you did?

1 Definitely would have
2 Probably would have
3 50-50 chance
4 Probably not
5 Definitely not
98 (Don't know)
99 (Refused)

IF N5ac=3,4,5 THEN ASK:

N5ad. In the absence of the program, how likely is it that you would have replaced your existing equipment within **five** years of when you did?

1 Definitely would have
2 Probably would have
3 50-50 chance
4 Probably not
5 Definitely not
98 (Don't know)
99 (Refused)

N5ae. Now I would like you to think one last time about what action you would have taken if the program had not been available. Supposing that you had not installed the program qualifying equipment, which of the following alternatives would you have been MOST likely to do?

a. Install fewer units

b. Install standard efficiency equipment or whatever required by code

c. install equipment more efficient than code but less efficient than what you installed through the program

d. repair/rewind or overhaul the existing equipment

e. do nothing (keep the existing equipment as is)

f. something else (specify what _____)

CONSISTENCY CHECKS

[ASK N5a-d IF N3b=8,9,10 AND N5=7,8,9,10]

N5a When you answered ...<N3B RESPONSE> ... for the question about the influence of the incentive, I would interpret that to mean that the incentive was quite important to your decision to install. Then, when you answered <N5 RESPONSE> for how likely you would be to install the same equipment without the incentive, it sounds like the incentive was not very important in your installation decision.

I want to check to see if I am misunderstanding your answers or if the questions may have been unclear. Will you explain the role the incentive played in your decision to install this efficient equipment?

00 [Record VERBATIM]
98 (Don't know)
99 (Refused)

N5b Would you like for me to change your score on the importance of the incentive that you gave a rating of <N3B RESPONSE> or change your rating on the likelihood you would install the same equipment without the incentive which you gave a rating of <N5 RESPONSE> and/or we can change both if you wish?

1 (Change importance of incentive rating)
2 (Change likelihood to install the same equipment rating)
3 (Change both)
4 (No, don't change)
8 (Don't know)
9 (Refused)

[ASK IF N5b=1,3]

N5c How important was… availability of the PROGRAM incentive? (IF NEEDED: in your DECISION to implement the project) [Scale of 0 to 10, where 0 means not at all important and 10 means extremely important; 98=Don't know, 99=Refused]

[ASK IF N5b=2,3]

N5d If the utility program had not been available, what is the likelihood that you would have installed exactly the same equipment? [Scale of 0 to 10, where 0 means "Not at all likely" and 10 means "Extremely likely"; 98=Don't know, 99=Refused]

[ASK IF N3j>7]

N6 In an earlier question, you rated the importance of STANDARD PRACTICE in your industry very highly in your decision making. Could you please rate the importance of the PROGRAM, relative to this standard industry practice, in influencing your decision to install this measure. Would you say the program was much more important, somewhat more important, equally important, somewhat less important, or much less important than the standard practice or policy?

1 (Much more important)
2 (Somewhat more important)
3 (Equally important)
4 (Somewhat less important)
5 (Much less important)
8 (Don't know)
9 (Refused)

[ASK IF N5>0, ELSE SKIP TO N8]

N7 You indicated earlier that there was a <N5 RESPONSE> in 10 likelihood that you would have installed the same equipment if the program had not been available. Without the program, when do you think you would have installed this equipment? Would you say…

1 At the same time
2 Earlier
3 Later
4 (Never)
8 (Don't know)
9 (Refused)

[ASK N7a IF N7=3]

N7a. How much later would you have installed this equipment? Would you say…

1 Within 6 months?
2 6 months to 1 year later
3 1 - 2 years later
4 2 - 3 years later?
5 3 - 4 years later?
6 4 or more years later
8 Don't know
9 Refused

[ASK N7b IF N7a=6]

N7b. Why do you think it would have been 4 or more years later?

00 [Record VERBATIM]
98 (Don't know)
99 (Refused)

PAYBACK BATTERY [ASK N8-N10e IF N3m=6,7,8,9,10]

I'd like to find out more about the payback criteria <COMPANY> uses for its investments.

N8 What financial calculations does <COMPANY> make before proceeding with installation of a MEASURE like this one?

00 [Record VERBATIM]
98 (Don't know)
99 (Refused)

N9 What is the payback cut-off point <COMPANY> uses (in months) before deciding to proceed with an investment? Would you say…

1 0 to 6 months
2 7 months to 1 year
3 more than 1 year up to 2 years
4 more than 2 years up to 3 years
5 more than 3 years up to 5 years
6 Over 5 years
8 (Don't know)
9 (Refused)

N10 Does your company generally implement projects that meet the required financial cut-off point?

1 (Yes)
2 (No)
8 (Don't know)
9 (Refused)

[ASK N10aa IF N10=2]

N10aa Why doesn't your company generally implement projects that meet the required financial cut-off point?

00 [Record VERBATIM]
98 (Don't know)

99 (Refused)

N10a Did the rebate play a big role in moving your project within the acceptable payback cutoff point?

1 (Yes)
2 (No)
8 (Don't know)
9 (Refused)

CORPORATE POLICY BATTERY [ASK N11-N17 IF N3L=6,7,8,9,10]

N11 Does your organization have a corporate environmental policy to reduce environmental emissions or energy use? Some examples would be to "buy green" or use sustainable approaches to business investments.

1 (Yes)
2 (No)
8 (Don't know)
9 (Refused)

[ASK N12-N17 IF N11=1]

N12 What specific corporate policy influenced your decision to adopt or install the <ENDUSE> through the Smart Ideas for your Business program?

00 [RECORD VERBATIM]
98 (Don't know)
99 (Refused)

N13 Had that policy caused you to adopt energy efficient <ENDUSE> at this facility before participating in the ComEd Smart Ideas for Your Business Smart Ideas for your Business program?

1 (Yes)
2 (No)
8 (Don't know)
9 (Refused)

N14 Had that policy caused you to adopt energy efficient <ENDUSE> at other facilities before participating in the Smart Ideas for your Business ComEd Smart Ideas for Your Business Program?

1 (Yes)
2 (No)
8 (Don't know)

9 (Refused)

[ASK N15-N16 IF N13=1 OR N14=1]

N15 Did you receive an incentive for a previous installation of <ENDUSE>?

1 (Yes)
2 (No)
8 (Don't know)
9 (Refused)

[ASK N16 IF N15=1]

N16 To the best of your ability, please describe…. [Record VERBATIM; 98=Don't know; 99=Refused]

a. the amount of incentive received
b. the approximate timing
c. the name of the program that provided the incentive

[ASK N17 IF N13=1 OR N14=1]

N17 If I understand you correctly, you said that <COMPANY> 's corporate policy has caused you to install energy efficient <ENDUSE> previously at this and/or other facilities. I want to make sure I fully understand how this corporate policy influenced your decision versus the Smart Ideas for your Business program. Can you please clarify that?

00 [Record VERBATIM]
98 (Don't know)
99 (Refused)

STANDARD PRACTICE BATTERY [ASK N18-N22 IF N3j=6,7,8,9,10]

N18 Approximately, how long has use of energy efficient <ENDUSE> been standard practice in your industry?

M [00 Record Number of Months; 98=Don't know, 99=Refused]
Y [00 Record Number of Years; 98=Don't know, 99=Refused]

N19 Does <COMPANY> ever deviate from the standard practice?

1 (Yes)
2 (No)
8 (Don't know)
9 (Refused)

[ASK IF N19=1]

N19a Please describe the conditions under which <COMPANY> deviates from this standard practice.

00 [Record VERBATIM]
98 (Don’t know)
99 (Refused)

N20 How did this standard practice influence your decision to install the <ENDUSE> through the Smart Ideas for Your Business program

00 [Record VERBATIM]
98 (Don't know)
99 (Refused)

N20a Could you please rate the importance of the Smart Ideas for Your Business program, versus this standard industry practice in influencing your decision to install the <ENDUSE>. Would you say the Smart Ideas for Your Business program was…

1 Much more important
2 Somewhat more important
3 Equally important
4 Somewhat less important
5 Much less important
8 (Don't know)
9 (Refused)

N21 What industry group or trade organization do you look to to establish standard practice for your industry?

00 [Record VERBATIM]
98 (Don't know)
99 (Refused)

N22 How do you and other firms in your industry receive information on updates in standard practice?

00 [Record VERBATIM]
98 (Don't know)
99 (Refused)

DESIGN ASSISTANCE

N23 Who provided the most assistance in the design or specification of the <ENDUSE> you installed through the program? (If necessary, probe from the list below.)

1 (Designer)
2 (Consultant)
3 (Equipment distributor)
4 (Installer)
5 (Smart Ideas for your Business account manager)
6 (<PROGRAM> staff)

00 (Other, specify)
98 (Don't know)
99 (Refused)

[SKIP N24 IF N23=98, 99]
N24 Please describe the type of assistance that they provided.
00 Record VERBATIM
98 Don't know
99 Refused

ADDITIONAL PROJECTS

[ASK N26 IF MSAME=1]
Our records show that <COMPANY> also received an incentive from Smart Ideas for your Business ComEd for <NSAME> other <ENDUSE> project(s).

N26 Was it a single decision to complete all of those <ENDUSE> projects for which you received an incentive from Smart Ideas for your Business or did each project go through its own decision process?
1 (Single Decision)
2 (Each project went through its own decision process)
00 (Other, specify)
98 (Don’t know)
99 (Refused)

[ASK N27 IF FSAME=1 ELSE SKIP TO SPILLOVER MODULE]
Our records show that <COMPANY> also received an incentive from Smart Ideas for your Business for a <FDESC> project at < ADDRESS >.

N27 Was the decision making process for the <FDESC> project the same as for the <ENDUSE> project we have been talking about?
1 (Same decision making process)
2 (Different decision making process)
00 (Other, specify)
98 (Don’t know)
99 (Refused)

EARLY REPLACEMENT BATTERY

Earlier, when I asked you a question about why you decided to implement the project, you gave reasons related to [READ LIST OF ISSUES MENTIONED IN N3]. Now I would like to ask some follow up questions regarding the responses you gave me.

IF N00=1, THEN ASK,

ER1. Approximately how old was the existing equipment?

___ Estimated Age
98 (Don't know)
99 (Refused)

ASK IF ER1=98ER1a. Approximately in what year was the existing equipment purchased?

___ Estimated Year of Purchase
98 (Don't know)
99 (Refused)

ER2. How much longer do you think it would have lasted?

___ Estimated Remaining Useful Life
98 (Don't know)
99 (Refused)

ER3. Would it be possible to obtain the original invoice for this equipment?

1. Yes [ARRANGE FOR DELIVERY]
2 No
98 (Don't know)
99 (Refused)

IF N00=2, THEN ASK,

ER4. Can you please describe the remodeling, build out or capacity expansion that you did and the role the project played in it?

00 (Other, specify)
98 (Don't know)
99 (Refused)

IF N00=3, THEN ASK,

ER5. Can you please describe how the existing equipment had operated before you upgraded it, and why you sought increased control over it?

00 (Other, specify)
98 (Don't know)
99 (Refused)

IF N00=4, THEN ASK,

ER6. How much downtime did you experience in the past year?

_____Downtime Estimate
98 (Don't know)
99 (Refused)

ER7. How much downtime did you experience in the previous years?

_____Previous Year Downtime Estimate
98 (Don't know)
99 (Refused)

ER8. Over the last 5 years, have maintenance costs been increasing, decreasing or staying about the same?

1Increasing

2Decreasing
3 Staying the same
98 (Don't know)
99 (Refused)

ER9. In your opinion, based on the economics of operating this equipment, for how many more years could you have kept this equipment functioning?
(INTERVIEWER NOTE: If less than one year, capture as 0)

_____Estimate of Remaining Useful Life
98 (Don't know)
99 (Refused)

IF N00=5, THEN ASK,

ER10. Can you briefly describe the process problems that you experienced prior to this project?

00 (Other, specify)
98 (Don't know)
99 (Refused)

ER11. Was it critical that these process problems be resolved as soon as possible?

1. Yes
2 No

98 (Don't know)
99 (Refused)

IF N00=6, THEN ASK,

ER12. Which of the following statements best describes the performance and operating condition of the equipment you replaced through the ComEd Smart Ideas for your Business program?

01. Existing equipment was fully functional, and without significant problems
02. Existing equipment was fully functioning, but with significant problems
03. Existing equipment had failed or did not function.
04. Existing equipment was obsolete
96. Not applicable, ancillary equipment (VSD, EMS, controls, etc.)
X 00. Other (RECORD VERBATIM)
98 (Don't know)
99 (Refused)

IF N00=7, THEN ASK,

ER13. Can you briefly describe these product quality improvements that this project provided?]

00 (Other, specify)
98 (Don't know)
99 (Refused)

ER14. Was it critical that these product quality improvements be made as soon as possible?

1. Yes
2 No
98 (Don't know)
99 (Refused)

IF N00=8, THEN ASK,

ER15. Can you briefly describe the specific code/regulatory requirements that this project addressed?

00 (Other, specify)
98 (Don't know)
99 (Refused)

ER16. Was it critical that your company comply with this code(s) as soon as possible?

1. Yes
2 No
98 (Don't know)
99 (Refused)

IF N00=9, THEN ASK,

ER19. Can you briefly describe the specific company policies regarding regular/normal maintenance/replacement policy(ies) that were relevant to this project?

00 (Other, specify)
98 (Don't know)
99 (Refused)

ER20. Was it critical that your company comply with these policies as soon as possible?

1. Yes
2 No
98 (Don't know)
99 (Refused)

PY4 SPILLOVER MODULE

Thank you for discussing the new <ENDUSE> that you installed through the Smart Ideas for Your Business Program. Next, I would like to discuss any energy efficient equipment you might have installed OUTSIDE of the program.

SP1 Since your participation in the Smart Ideas for your Business program, did you implement any ADDITIONAL energy efficiency measures at this facility or at your other facilities within ComEd's service territory that did NOT receive incentives through any utility or government program?

1 (Yes)
2 (No)
8 (Don't know)
9 (Refused)

[ASK SP2-SP7i IF SP1=1, ELSE SKIP TO S0]

SP2 What was the first measure that you implemented? (IF RESPONSE IS GENERAL, E.G., "LIGHTING EQUIPMENT", PROBE FOR SPECIFIC MEASURE. PROBE FROM LIST, IF NECESSARY.)

1 (Lighting: T8 lamps)
2 (Lighting: T5 lamps)
3 (Lighting: Highbay Fixture Replacement)
4 (Lighting: CFLs)
5 (Lighting: Controls / Occupancy sensors)
6 (Lighting: LED lamps)
7 (Cooling: Unitary/Split Air Conditioning System)
8 (Cooling: Room air conditioners)
9 (Cooling: Variable Frequency Drives (VFD/VSD) on HVAC Motors)

10 (Motors: Efficient motors)
11 (Refrigeration: Strip curtains)
12 (Refrigeration: Anti-sweat controls)
13 (Refrigeration: EC motor for WALK-IN cooler/freezer)
14 (Refrigeration: EC motor for REACH-IN cooler/freezer)
00 (Other, specify)
96 (Didn't implement any measures)
98 (Don't know)
99 (Refused)

[SKIP TO S0 IF SP2=96, 98, 99]

SP3 What was the second measure? (IF RESPONSE IS GENERAL, E.G., "LIGHTING EQUIPMENT", PROBE FOR SPECIFIC MEASURE. PROBE FROM LIST, IF NECESSARY.)

1 (Lighting: T8 lamps)
2 (Lighting: T5 lamps)
3 (Lighting: Highbay Fixture Replacement)
4 (Lighting: CFLs)
5 (Lighting: Controls / Occupancy sensors)
6 (Lighting: LED lamps)
7 (Cooling: Unitary/Split Air Conditioning System)
8 (Cooling: Room air conditioners)
9 (Cooling: Variable Frequency Drives (VFD/VSD) on HVAC Motors)
10 (Motors: Efficient motors)
11 (Refrigeration: Strip curtains)
12 (Refrigeration: Anti-sweat controls)
13 (Refrigeration: EC motor for WALK-IN cooler/freezer)
14 (Refrigeration: EC motor for REACH-IN cooler/freezer)
00 (Other, specify)
96 (There was no second measure)
98 (Don't know)
99 (Refused)

[SKIP SP4 IF SP3=96, 98, 99]

SP4 What was the third measure? (IF RESPONSE IS GENERAL, E.G., "LIGHTING EQUIPMENT", PROBE FOR SPECIFIC MEASURE. PROBE FROM LIST, IF NECESSARY.)

1 (Lighting: T8 lamps)
2 (Lighting: T5 lamps)
3 (Lighting: Highbay Fixture Replacement)
4 (Lighting: CFLs)
5 (Lighting: Controls / Occupancy sensors)
6 (Lighting: LED lamps)
7 (Cooling: Unitary/Split Air Conditioning System)
8 (Cooling: Room air conditioners)
9 (Cooling: Variable Frequency Drives (VFD/VSD) on HVAC Motors)
10 (Motors: Efficient motors)
11 (Refrigeration: Strip curtains)
12 (Refrigeration: Anti-sweat controls)
13 (Refrigeration: EC motor for WALK-IN cooler/freezer)
14 (Refrigeration: EC motor for REACH-IN cooler/freezer)
00 (Other, specify)
96 (There was no third measure)
98 (Don't know)
99 (Refused)

SP5 I have a few questions about the FIRST measure that you installed. (If needed, read back measure: <SP2 RESPONSE>) [OPEN END]

a. Why did you not receive an incentive for this measure?
b. Why did you not install this measure through the Smart Ideas for your Business Program?
c. Please describe the SIZE, TYPE, and OTHER ATTRIBUTES of this measure.
d. Please describe the EFFICIENCY of this measure.
e. How many of this measure did you install?

SP5f. Was this measure specifically recommended by a program related audit, report or program technical specialist?

1 (Yes)
2 (No)
8 (Don't know)
9 (Refused)

SP5g. How significant was your experience in the Smart Ideas for Your Business Smart Ideas for your Business Program in your decision to implement this Measure, using a scale of 0 to 10, where 0

is not at all significant and 10 is extremely significant? [SCALE 0-10; 98=Don't Know; 99=Refused]

[SKIP SP5h IF SP5g = 98, 99]

SP5h. Why do you give it this rating? [OPEN END]

SP5i. If you had not participated in the Smart Ideas for Your Business Smart Ideas for your Business program, how likely is it that your organization would still have implemented this measure, using a 0 to 10, scale where 0 means you definitely WOULD NOT have implemented this measure and 10 means you definitely WOULD have implemented this measure? [SCALE 0-10; 98=Don't Know; 99=Refused]

CONSISTENCY CHECK ON PROGRAM IMPORTANCE RATING VS. NO PROGRAM RATING

[ASK CC1a IF SP5g=0,1,2,3 AND SP5i =0,1,2,3]

CC1a When you answered ...<SP5g RESPONSE> ... for the question about the influence of the Smart Ideas for Your Business Smart Ideas for your Business Program on your decision to install this measure, I would interpret that to mean the Program was not very important to your decision. However, when you answered the previous question, it sounds like it was not very likely that you would have installed this measure had you not participated in the Smart Ideas for Your Business Smart Ideas for your Business Program. Can you please explain the role the program made in your decision to implement this measure?

00 [Record VERBATIM]
98 (Don't know)
99 (Refused)

[ASK CC1b IF SP5g=8,9,10 AND SP5i =8,9,10]

CC1b When you answered ...<SP5g RESPONSE> ... for the question about the influence of the Smart Ideas for Your Business Smart Ideas for your Business Program on your decision to install this measure, I would interpret that to mean the Program was quite important to your decision. However, when you answered the previous question, it sounds like it was very likely that you would have installed this measure had you not participated in the Smart Ideas for Your BusinessSmart Ideas for your Business Program. Can you please explain the role the program made in your decision to implement this measure?

00 [Record VERBATIM]
98 (Don't know)
99 (Refused)

[SKIP SP6-SP7i IF SP3=96, 98, 99]

SP6 I have a few questions about the SECOND measure that you installed. (If needed, read back measure: <SP3 RESPONSE>) [OPEN END]

a. Why did you not receive an incentive for this measure?

b. Why did you not install this measure through the Smart Ideas for Your BusinessSmart Ideas for your Business Program?

c. Please describe the SIZE, TYPE, and OTHER ATTRIBUTES of this measure.

d. Please describe the EFFICIENCY of this measure.

e. How many of this measure did you install?

SP6f. Was this measure specifically recommended by a program related audit, report or program technical specialist?

1 (Yes)
2 (No)
8 (Don't know)
9 (Refused)

SP6g. How significant was your experience in the Smart Ideas for Your Business Smart Ideas for your Business Program in your decision to implement this Measure, using a scale of 0 to 10, where 0 is not at all significant and 10 is extremely significant? [SCALE 0-10; 98=Don't Know; 99=Refused]

[SKIP SP6h IF SP6g = 98, 99]

SP6h. Why do you give it this rating? [OPEN END]

SP6i. If you had not participated in the Smart Ideas for Your Business Smart Ideas for your Business program, how likely is it that your organization would still have implemented this measure, using a 0 to 10, scale where 0 means you definitely WOULD NOT have implemented this measure and 10 means you definitely WOULD have implemented this measure? [SCALE 0-10; 98=Don't Know; 99=Refused]

CONSISTENCY CHECK ON PROGRAM IMPORTANCE RATING VS. NO PROGRAM RATING

[ASK CC2a IF SP6g=0,1,2,3 AND SP6i =0,1,2,3]

CC2a When you answered ...<SP6g RESPONSE> ... for the question about the influence of the Smart Ideas for Your Business Smart Ideas for your Business Program on your decision to install this measure, I would interpret that to mean the Program was not very important to your decision. However, when you answered the previous question, it sounds like it was not very likely that you would have installed this measure had you not participated in the Smart Ideas for Your Business Smart Ideas for your Business Program. Can you please explain the role the program made in your decision to implement this measure?

00 [Record VERBATIM]
98 (Don't know)
99 (Refused)

[ASK CC2b IF SP6g=8,9,10 AND SP6i =8,9,10]

CC2b When you answered ...<SP6g RESPONSE> ... for the question about the influence of the Smart Ideas for Your Business Smart Ideas for your Business Program on your decision to install this measure, I would interpret that to mean the Program was quite important to your decision. However, when you answered the previous question, it sounds like it was very likely that you would have installed this measure had you not participated in the Smart Ideas Smart Ideas for your Business Program. Can you please explain the role the program made in your decision to implement this measure?

00 [Record VERBATIM]
98 (Don't know)
99 (Refused)

[SKIP SP7 – SP7i IF SP4=96, 98, 99]

SP7 I have a few questions about the THIRD measure that you installed. (If needed, read back measure: <SP3 RESPONSE>) [OPEN END]

a. Why did you not receive an incentive for this measure?
b. Why did you not install this measure through the Smart Ideas for your Business Program?
c. Please describe the SIZE, TYPE, and OTHER ATTRIBUTES of this measure.
d. Please describe the EFFICIENCY of this measure.
e. How many of this measure did you install?

SP7f. Was this measure specifically recommended by a program related audit, report or program technical specialist?

1 (Yes)
2 (No)
8 (Don't know)
9 (Refused)

SP7g. How significant was your experience in the Smart Ideas for your Business Program in your decision to implement this Measure, using a scale of 0 to 10, where 0 is not at all significant and 10 is extremely significant? [SCALE 0-10; 98=Don't Know; 99=Refused]

[SKIP SP7h IF SP7g = 98, 99]

SP7h. Why do you give it this rating? [OPEN END]

SP7i. If you had not participated in the Smart Ideas for your Business program, how likely is it that your organization would still have implemented this measure, using a 0 to 10, scale where 0 means you definitely WOULD NOT have implemented this measure and 10 means you definitely WOULD have implemented this measure? [SCALE 0-10; 98=Don't Know; 99=Refused]

CONSISTENCY CHECK ON PROGRAM IMPORTANCE RATING VS. NO PROGRAM RATING

[ASK CC3a IF SP7g=0,1,2,3 AND SP7i =0,1,2,3]

CC3a When you answered ...<SP7g RESPONSE> ... for the question about the influence of the Smart Ideas Program on your decision to install this measure, I would interpret that to mean the Program was not very important to your decision. However, when you answered the previous question, it sounds like it was not very likely that you would have installed this measure had you not participated in the Smart Ideas Program. Can you please explain the role the program made in your decision to implement this measure?

00 [Record VERBATIM]
98 (Don't know)
99 (Refused)

[ASK CC3b IF SP7g=8,9,10 AND SP7i =8,9,10]

CC3b When you answered ...<SP7g RESPONSE> ... for the question about the influence of the Smart Ideas Program on your decision to install this measure, I would interpret that to mean the Program was quite important to your decision. However, when you answered the previous question, it sounds like it was very likely that you would have installed this measure had you not participated in the Smart Ideas Program. Can you please explain the role the program made in your decision to implement this measure?

00 [Record VERBATIM]
98 (Don't know)
99 (Refused)

PROCESS MODULE

I'd now like to ask you a few general questions about your participation in the Smart Ideas for Your Business program.

Program Processes and Satisfaction

•

S1a Did YOU fill out the application forms for the project? (Either the initial or the final program application)

- 1. (Yes)

- 2. (No)
- 8. (Don't know)
- 9. (Refused)

- [ASK S1c IF S1a=1 ELSE SKIP TO S1e]

S1c How would you rate the application process? Please use a scale of 0 to 10 where 0 is "very difficult" and 10 is "very easy". [SCALE 0-10; 98=Don't know, 99=Refused]

- [ASK S1d IF S1c<4]

S1d Why did you rate it that way?

1. (Difficult to understand)
2. (Long process)
00. (Other, specify)
98. (Don't know)
99. (Refused)

- [ASK S1e IF S1a=2]

S1e Who filled out the application forms for the project?

- 1. (Someone else at the facility)
- 2. (Someone else at the company)
- 3. (Trade Ally)
- 4. (Contractor)
- 5. (Supplier/Distributor/Vendor)
- 6. (Engineer)
- 7. (Consultant)
- 00. (Other, specify)
- 98. (Don't know)
- 99. (Refused)

- [ASK S4b IF V1=1]

S4b You previously mentioned that you used a contractor for this project. Was the contractor you used affiliated with the Smart Ideas program? (IF NEEDED: Was the contractor REGISTERED with the Smart Ideas program?)

- 1. Yes
- 2. No
- 8. (Don't know)
- 9. (Refused)

S7 When implementing an energy efficiency project, how important is it to you that the contractor is affiliated with the Smart Ideas Program? Please use a scale from 0 to 10, where 0 is "not at all important" and 10 is "very important"? [SCALE 0-10; 98=Don't know, 99=Refused]

S11 On a scale of 0 to 10, where 0 is very dissatisfied and 10 is very satisfied, how would you rate your satisfaction with… [SCALE 0-10; 96=not applicable, 98=Don't know, 99=Refused]

- a. the incentive amount
- b. the communication you had with the Smart Ideas program staff
- c. the call centers ability to answer your questions
- d. the Smart Ideas program overall
- e. your contractors ability to meet your needs
- f. ComEd overall

- [ASK IF S11 a, b, c, d, e, f <4 or S11 a, b, c, d, e, f >7]

S12a. Why did you rate it this way? [OPEN END; 98=DK; 99=ref]]

S10a Did you experience any problems during the participation process? (IF NEEDED: Other than what we have already talked about)

- 1. Yes
- 2. No
- 8. (Don't know)
- 9. (Refused)

- [ASK S10b IF S10a=1]

S10b What problems did you experience?

1. (Process takes too long)
2. (Inconsistent information)

3. (Low incentives/rebates)
4. (Program ran out of money)
   - 00. (Other, specify)
   - 98. (Don't know)
   - 99. (Refused)

Marketing and Outreach

•

MK0 I'm now going to ask you about several specific ways in which you might have seen or heard information about the Smart Ideas for Your Business program. Have you ever… [1=Yes, 2=No, 8=(Don't know), 9=(Refused)]

a. Seen a printed ad in a publication?
b. Heard a radio commercial?
c. Seen a program billboard?
d. Received information about the program in your monthly utility bill?
e. Attended an event where the program was discussed?
f. Discussed the program with a ComEd Account Manager or other ComEd staff?
g. Discussed the program with a Contactor or Trade Ally?
h. Seen information about the program on the ComEd Website?
i. Received information about the program in an Email?
j.
k. Read about the program in a ComEd Newsletter?

MK01 Have you heard about the Smart Ideas for Your Business program through any other means?

- 1. Yes-specify
- 2. No
- 8. (Don't know)
- 9. (Refused)

MK1b How useful were the program's marketing materials in providing information about the program? Would you say they were…

1. Very useful
2. Somewhat useful
3. Not very useful
4. Not at all useful
8. (Don't know)
9. (Refused)

- [ASK MK1c IF MK1b=3,4]

MK1c What would have made the materials more useful to you? [MULTIPLE RESPONSE, UP TO 3]

1. (More detailed information)
2. (Where to get additional information)
00. (Other, specify)
98. (Don't know)
99. (Refused)

MK2 In general, what is the best way of reaching companies like yours to provide information about energy efficiency opportunities like the Smart Ideas for Your Business program? [MULTIPLE RESPONSE, UP TO 3]

1. (Bill inserts)
2. (Flyers/ads/mailings)
3. (e-mail)
4. (Telephone)
5. (ComEd Account Manager)
8. (Trade allies/contractors)
00. (Other, specify)
98. (Don't know)
99. (Refused)

Benefits and Barriers

B1a What do you see as the main benefits to participating in the Smart Ideas for Your Business program? [MULTIPLE RESPONSE, UP TO 3]

1. (Energy Savings)
2. (Good for the Environment)
3. (Lower Maintenance Costs)
4. (Better Quality/New Equipment)
5. (Rebate/Incentive)
9. (Able to make improvements sooner)
10. (Saves money on utility bill)
00. (Other, Specify)
98. (Don't know)
99. (Refused)

B1b What do you see as the drawbacks to participating in the program? [MULTIPLE RESPONSE, UP TO 3]

1. (Paperwork too burdensome)
2. (Incentives not high enough/not worth the effort)
3. (Program is too complicated)

4. (Cost of equipment)
5. (No drawbacks)
6. (Poor Communication)
7. (Time Consuming)
00. (Other, specify)
98. (Don't know)
99. (Refused)

B2 What do you think are the reasons companies like yours do not participate in this program? [MULTIPLE RESPONSE, UP TO 3]

1. (Lack of awareness of the program)
2. (Financial reasons)
4. (Not aware of savings/don't realize the savings)
5. (Difficulty of Application/Paperwork)
00. (Other, specify)
96. (None/no reasons)
98. (Don't know)
99. (Refused)

B3 Was the scope of your project limited by the program's incentive cap?

1. Yes
2. No
00. (Other, specify)
98. (Don't know)
99. (Refused)

Feedback and Recommendations

R1 Do you plan to participate in the program again in the future?

1. Yes
2. No
3. Maybe
8. (Don't know)
9. (Refused)

R2 How could the Smart Ideas for Your Business Program be improved? [MULTIPLE RESPONSE, UP TO 4]

1. (Higher incentives)
2. (More measures)
3. (Greater publicity)

4. (Better Communication/Improve Program Information)
8. (Simplify application process)
11. (Quicker processing times)
00. (Other, specify)
96. (No recommendations)
98. (Don't know)
99. (Refused)

Firmographics

I only have a few general questions left.

F1a What is <COMPANY>'s business type? (PROBE, IF NECESSARY; IF MANUFACTURING, PROBE IF IT IS LIGHT INDUSTRY OR HEAVY INDUSTRY)

- 1. (K-12 School)
- 2. (College/University)
- 3. (Grocery)
- 4. (Medical)
- 5. (Hotel/Motel)
- 6. (Light Industry)
- 7. (Heavy Industry)
- 8. (Office)
- 9. (Restaurant)
- 10. (Retail/Service)
- 11. (Warehouse)
- 15. (Property Management/Real Estate)
- 00. (Other, specify)
- 98. (Don't know)
- 99. (Refused)

F1b And is the business type of the facility in which the <ENDUSE> was installed the same?

1. Yes
2. No
8. (Don't know)
9. (Refused)

[ASK F1c IF F1b=2]

F1c What is the business type of the facility? (PROBE, IF NECESSARY – CLASS MANUFACTURING AS EITHER LIGHT OR HEAVY INDUSTRY)

1. (K-12 School)

2. (College/University)
3. (Grocery)
4. (Medical)
5. (Hotel/Motel)
6. (Light Industry)
7. (Heavy Industry)
8. (Office)
9. (Restaurant)
10. (Retail/Service)
11. (Warehouse)
15. (Property Management/Real Estate)
00. (Other, specify)
98. (Don't know)
99. (Refused)

F2 Which of the following best describes the ownership of this facility?

1. <COMPANY> owns and occupies this facility
2. <COMPANY> owns this facility but it is rented to someone else
3. <COMPANY> rents this facility
8. (Don't know)
9. (Refused)

[SKIP if F2=1]

F3 Does <COMPANY> pay the electric bill?

1. Yes
2. No
8. (Don't know)
9. (Refused)

F4a How old is this facility? [NUMERIC OPEN END, 0 TO 150; 998=Don't know, 999=Refused]

[ASK F4b IF F4a=998]

F4b Do you know the approximate age? Would you say it is…

1. Less than 2 years
2. 2-4 years
3. 5-9 years
4. 10-19 years
5. 20-29 years
6. 30 years or more years
8. (Don't know)
9. (Refused)

F5a How many employees, full plus part-time, are employed at this facility? [NUMERIC OPEN END, 0 TO 2000; 9998=Don't know, 9999=Refused]

[ASK F5b IF F5a=9998]

F5b Do you know the approximate number of employees? Would you say it is…

1. Less than 10
2. 10-49
3. 50-99
4. 100-249
5. 250-499
6. 500 or more
8. (Don't know)
9. (Refused)

F6 Which of the following best describes the facility? This facility is…

1. <COMPANY>'s only location
2. one of several locations owned by <COMPANY>
3. the headquarters location of <COMPANY> with several locations

[SKIP F7 IF F2=2]

F7 In comparison to other companies in your industry, would you describe <COMPANY> as…

1. A small company
2. A medium-sized company
3. A large company
4. (Not applicable)
8. (Don't know)
9. (Refused)

5.4.2 Interview Guide for ComEd Account Managers

ComEd Smart Ideas for Your Business C&I Programs: Account Manager Interviews
FINAL

Hello, this is _____ from Opinion Dynamics. We are the independent contractor hired by ComEd to conduct the evaluation of the Smart Ideas for Your Business Program. We are doing a brief survey with ComEd Account Managers. We are interested in your experience with the <Prescriptive and/or Custom> Program and any feedback you may have received about the program from your customers.

Is now still a good time or is there a more convenient time when I could call back?

Alert interviewee that the call will be recorded.
Note that responses will remain confidential and only be reported in aggregate with other responses.

Background

1. What kind of customers do you serve? *[Probe for business sector, size, chains]* Approximately how many customers do you serve?

2. How frequently do you interact with your customers? What is the primary mode of communication? [*Probe for if they visit location, call, send out emails, letters]* Does this vary by customer type or size?

3. How many Tier 1 customers do you have? [IF NEEDED: Tier 1 Customers are using over a megawatt of power] Of your Tier 1 customers, how many were already aware of the Smart Ideas Program?
4. One of the account manager goals for PY4 to present a slide deck about the Smart Ideas program to all Tier 1 customers. How did you feel about this goal? Was it realistic? In your opinion was this a good way to inform the customers of the programs? Do you have any recommendations for communication to customers about the Smart ideas program?

NTG Battery

5. According to our records <SCOMP> is a customer of yours who implemented a <EUSE> project through the<CUSTOM/PRESCRIPTIVE/BOTH> Program at <ADDR>. Were you aware of their participation?

6. Is this customer one of your Tier 1 customers? Did you present the program to them? If so, how do you think the presentation was received by the customer?

7. [**If the customer is NOT a Tier 1 customer**] Did you ever promote the Smart Ideas for Your Business Program to <SCOMP>? How frequently did you discuss the program with them? (*Probe for when the first began discussing the program, use <DATE> as a reference point)*

8. Did you play a role in their decision to implement <EUSE> project? Please explain. From your perspective, what were the main factors in <SCOMP> decision to install high efficiency equipment and participate in the program?
    a. If promote it/involved: Without your involvement, how likely would they have been to implement the project through the program? (*Probe for very likely, somewhat likely, not at all likely)*
9. To the best of your knowledge, has <SCOMP> had either a Smart Ideas Opportunity Assessment or a Facility Assessment? If so, which one?
10. Have you discussed the assessment with <SCOMP>? How satisfied do you think <SCOMP> was with the assessment?

Program Awareness

11. How familiar would you say you are with the Smart Ideas for Your Business Program? *[Probe: very, somewhat, not very, not at all familiar]*How familiar would you say you are with the trade ally network?
12. How often would you say you have reached out to the trade ally network to help complete a project?
13. During the PY4 cycle, [IF NEEDED: From June 2011 to May 2012], Have you attended any lunch-and-learn presentations? How useful did you find these presentations? How did you use the information from the Lunch N Learns? Please explain.

14. How often do you discuss energy efficiency with your customers? How often do you promote the program?
    <u>If not often:</u> why not?

15. What do you find to be the best way to reach your customers about energy efficiency opportunities? Does this vary by customer type or size?

16. What information about the program do you typically provide? *[probe for fact sheets, case studies]*

If provide materials: How useful have you found these marketing materials to be? What could make them more useful?

17. Do you use the website as a resource for program information? Do you find that the materials on the website are easily accessible? Do you have any suggestions on how to make program materials more accessible?

18. Do you feel you have enough information about the program to effectively promote it and assist customers in getting started with their participation?

19. Is there anything that the program could do to help you be more effective in promoting the program? *(probe for better marketing materials, more training, …)*

20. Do you use a formal process for tracking leads? Do you keep track of your communications with your customers with respect to the Smart Ideas program? Is this information passed along to Program staff?
    a. Do you find this process is working? Why/Why not?

Customer Awareness/Interest/Participation

21. What percentage of your customers, do you think, are aware of the Smart Ideas for Your Business Program? What percentage is interested? Why or why not? Does this vary by customer type or size?

22. How aware are you of your customers' participation and status in the program? Do you find that the weekly updates are useful? Do they provide enough information? Do you prefer to get updates in any other way? Do you use the Frontier Tracking Database? Is it helpful in tracking project status? Project impact? Why or why not?

23. Approximately what percentage of your customers has participated in the Smart Ideas Program? Does this vary by customer type or size?

24. Have you gotten any feedback from customers about the Smart Ideas Program? What is the nature of that feedback? Does this vary by customer type or size?

25. In your view, what are the major barriers to participating in the Smart Ideas for Your Business program?

26. What are the major barriers to your customers in installing energy efficient equipment?

Those are all the questions I had. Thank you very much for your time today!

5.4.3 Interview Guide for Participating Trade Allies

Trade Ally Survey for the ComEd Prescriptive/Custom Program
FINAL

Hello, this is _____ from Opinion Dynamics calling on behalf of ComEd. THIS IS NOT A SALES CALL. We are doing a brief survey with program allies who have been involved in projects supported by the Smart Ideas for Your Business Program.

We are interested in your experience with the program and any feedback you may have received from your customers about the program. ComEd plans to use the information to improve the energy efficiency programs and services it offers to its business customers.

[If name does not match name on list] Who might be the best person to speak with about the Smart Ideas for Your Business Program?

[If name matches name on list] Would you be willing to speak with me for about 15 minutes? Is now a good time or is there a more convenient time when I could call back?

Alert interviewee that the call will be recorded.
Note that responses will remain confidential and only be reported in aggregate with other responses.

Firmographics

I first have a few general questions about your company.

F1 What is your business category? (Probe for: contractor, engineer, ESCO, equipment vendor, architect)

F2 What type of equipment, if any, would you say is your company's area of expertise? (Probe, if necessary: lighting, HVAC, refrigeration, motors, food service)

a. If multiple areas: What is the MAIN area? → [RECORD THIS AREA AS "ENDUSE"]

b. Approximately how many total commercial or industrial [ENDUSE] projects does your company implement in a typical year?

F3 Would you consider your company to be local, regional, national or international in size?

F4 What are the key business sectors your company serves? (Probe for light/heavy industry, retail, office, restaurant, etc.)

Freeridership Module [ASK ONLY IF IDENTIFIED BY CUSTOMER]

I now have a few specific questions about your firm's recent involvement in <%CUSTOMER>'s installation of <%MEASURE> through the Smart Ideas for Your Business Program at <%ADDRESS> in <%MONTH/YEAR >.

FR1 <%CUSTOMER> has indicated that your firm was involved in the implementation of this project. Is this correct? Are you the person that is most knowledgeable about your firm's involvement in this project?

[IF NO,PROBE TO SEE IF THERE IS SOMEONE ELSE IN FIRM WHO MAY HAVE KNOWLEDGE OF THIS PROJECT, ELSE SKIP TO FR4]

FR2 Can you please describe your firm's role in the selection and installation of <%MEASURE> at <%CUSTOMER>'s facility? (Probe if firm merely supplied or installed equipment or if they had a role in selecting it. Probe about perceived level of influence firm's recommendation had on customers choice.)

FR2a At what stage in the project did you get involved with <%CUSTOMER>'s project? When do you typically get involved with customer projects?

[IF NO ROLE IN SELECTING EQUIPMENT, SKIP TO FR4]

FR3a On a scale of 0 to 10 where 0 is NOT AT ALL IMPORTANT and 10 is EXTREMELY IMPORTANT, how important was the PROGRAM, including incentives as well as program services and information, in influencing your decision to recommend that <%CUSTOMER> install the energy efficiency MEASURE at this time? [SCALE 0-10]

FR3b And using a 0 to 10 likelihood scale where 0 is NOT AT ALL LIKELY and 10 is EXTREMELY LIKELY, if the PROGRAM, including incentives as well as program services and information, had not been available, what is the likelihood that you would have recommended this specific MEASURE to <%CUSTOMER>? [SCALE 0-10]

FR4 Do you know of any other vendors that worked with <%CUSTOMER> during their implementation and/or installation of <%MEASURE>, for example engineers or designers? If so, do you have their name and phone number

Market Trends & Effect of Program on Business

I now have a few questions about the market for commercial and industrial [ENDUSE] equipment and the influence of the Smart Ideas for Your Business Program on your business practices.

M1 Over the last 12 months, approximately what percentage of your [ENDUSE] equipment sales in ComEd's service territory were energy efficient models?

a. Of these energy efficiency models, approximately what percentage would qualify for incentives from the program?

b. And of the installations that would qualify for incentives, approximately what percentage did NOT receive an incentive? Why do you think they did not receive an incentive? *(Probe for other reasons, if only one is mentioned.)*

M2 You just told me that about ___% of your [ENDUSE] sales involve high efficiency equipment. Do more of your sales today involve high efficiency equipment compared with what you sold four years ago?

<u>If increase:</u>

a. How important was the Smart Ideas Program in this change? *(Probe for specific program components: incentives, training, program website, other program components.)*
b. How important are other factors not related to the program? What are these other factors? *(Probe for tax credits/gov't rebates, general EE awareness, change in codes or standards.)*

M3 In what percent of sales situations do you recommend high efficiency [ENDUSE] products?

a. [If not 100%] When you don't recommend high efficiency products, what are the reasons?

M4 Has the frequency with which you recommend high efficiency [ENDUSE] equipment changed in the past four years? How?

<u>If change noted:</u>

a. How important was the Smart Ideas Program in this change? *(Probe for specific program components: incentives, training, program website, other program components.)*
b. How important are other factors not related to the program? What are these other factors? *(Probe for tax credits/gov't rebates, general EE awareness, change in codes or standards.)*

M5 As a result of the Smart Ideas Program…

a. have you changed the type of equipment you supply and sell?
b. have you changed any other business practices as a result of the program? *(Probe for: hired more staff, opened up new offices, changed marketing.)*
c. Has the program caused an increase in business?

M6 How aware, would you say, are your customers of energy efficiency and options available to make their facilities more energy efficient? How interested would you say are they? *(Probe for very, somewhat, not very, not at all aware/interested)*
Has this (awareness/interest) changed over time?

M7 What do you view as the main barriers to the installation of energy efficient equipment for your customers? Does this vary by customer type or size? Anything else? What could be done to overcome these barriers?

Process Module

P1 How aware, would you say, are your customers of the Smart Ideas for Your Business program? How interested are they in it? Does this vary by customer type or size?

P2 How frequently do you promote the program to your customers? (Always, most of the time, sometimes, rarely, never?) If sometimes/rarely/never: Why? Does this vary by customer type or size?

P3 Have you received any marketing materials from the program? If so, what did you receive? *(Probe for fact sheets, case studies, The Wire newsletter, "toolkit" from training session)* Do you provide these materials to your customers?

a. If yes: How useful do you think are these materials in providing information about the program and encouraging customers to participate? If not useful, what would make them more useful?
b. If no: why not?
c. Are there any specific promotional materials that you would like ComEd to provide? If yes, what are they (e.g., case studies, point-of-sale technical handouts, website tools/enhancements)?

[IF REGISTERED TRADE ALLY]

P4 Our records show that you are a registered Trade Ally, is that correct?

a. Has the designation of "Trade Ally" changed any of your business practices? How?
b. What do you see as the main benefits of being a registered Trade Ally? *(Probe: marketing materials, listing on ComEd website, group training, application status, sales coaching, discount on technical training, eligibility for trade ally bonus)*

[IF NOT A REGISTERED TRADE ALLY]

P5 Our records show that you are **not** a registered trade ally, is that correct?

a. Why has your company not registered to become a Trade Ally?

b. Are you planning on becoming a registered trade ally?
c. What, if any, do you see as the main benefits of being a registered Trade Ally? *(Probe: marketing materials, listing on ComEd website, group training, application status, sales coaching, discount on technical training)*
d. What Trade Ally benefits could the Smart Ideas Program add that may convince you to become a registered trade ally? *(Probe for trade ally bonus)*

P6 Were you aware that ComEd offered trade ally bonuses in the fall of 2010, where registered trade allies were awarded bonuses based on the number of projects they completed through the program?

[IF REGISTERED TRADE ALLY]

If aware:

a. Did your company receive a bonus?
b. Did the bonus offering lead to an increased promotion of the program on your behalf? Did it lead to any other changes in your business practices? Do you think it resulted in more or bigger projects?
c. How did you feel about the restrictions/rules of the bonus? Was the bonus amount adequate?
d. What changes, if any, would you make to a trade ally bonus offering to make it more effective at bringing in more large projects? *(Probe: timing of bonus, length of promotion)*

P7 What do you view as the main barriers to customer participation in the Smart Ideas for Your Business program? What could be done to overcome these barriers?

P8 How satisfied are you with your participation in the Smart Ideas for Your Business program? *(Ask very, somewhat, not very, not at all satisfied.)* If not very satisfied or not at all satisfied: why?

a. measures offered
b. incentive amounts
c. communication with Smart Ideas program staff
d. the program overall

[ask if total # of proj<4]

P9 Our records indicate that you only participated in [X] project(s) through the program between June 2011 and May 2012. Can you briefly describe what prevented you from more active participation?

P10 Do you have any recommendations of how the Smart Ideas for Your Business Program could be improved?

This concludes our survey. On behalf of ComEd, thank you very much for your time today!

5.4.4 Interview Guide for Smart Ideas Opportunity Assessment (SIOA)

ComEd C&I Custom and Prescriptive Program –SOIA Participant Interview Guide
July 2012

Smart Ideas Opportunity Assessment Participant Customers

Name of Interviewee: _____ Date: _____
Title: _____ Company: _____

[Note to Reviewer] The Interview Guide is a tool to guide process evaluation interviews with utility staff, implementation contractors, program participants and trade allies. The guide helps to ensure the interviews include questions concerning the most important issues being investigated in this study. Follow-up questions are a normal part of these types of interviews. Therefore, there will be sets of questions that will be more fully explored with some individuals than with others. The interviews will be audio taped.

Introduction

Hi, may I please speak with [name from list]?

My name is ___ and I'm calling from Opinion Dynamics, an independent research firm, on behalf of ComEd. We're talking to customers who recently received a Smart Ideas Opportunity Assessment through ComEd's Smart Ideas for your Business Program.

We are interested in your experience with the program and any recommendations you may have. ComEd plans to use this information to improve the energy efficiency programs and services it offers to its business customers.

Would you be willing to speak with me for about 15 minutes? Your responses will be kept strictly confidential.

I. Program Awareness and Marketing

1. How did you learn about the Smart Ideas Opportunity Assessment? *[PROBE FOR: ComEd Account Manager and Trade Ally (Contractor).]*
2. Before you heard about the assessment, were you aware of ComEd's energy efficiency programs known as the Smart Ideas for Your Business program? If so, how did you learn about the Smart ideas program? Had you spoken with your account manager about Smart Ideas before discussing the Smart Ideas Opportunity Assessment?
3. What is the best way to reach businesses like yours with information about Smart Ideas program offerings?

II. Assessment Program Satisfaction

1. How satisfied have you been with the overall process of the assessment? [*PROBE FOR: Scheduling, Conducting, Time to Completion, and Receipt of Report]*
2. How satisfied were you with the technical information you received about opportunities for energy efficiency improvements at your facility? Was the assessment report explained clearly?
3. Is there anything ComEd could do to improve the Smart Ideas Opportunity Assessment Program?

III. Audit Information

1. What was the most important factor that influenced you to receive the assessment? Cost of the assessment (it is free)? Lack of staff time/expertise to conduct a similar assessment? Other available resources? Desire to reduce energy costs?
2. Were you aware of the projects that were identified by the assessment before you had the assessment? Did the assessment provide you with additional information you did not know about your facility's opportunities for incentives?
3. Is there any additional information you would have liked to see in the assessment report?

IV. Impact

1. Have you participated in any of ComEd's Smart Ideas for Your Business programs prior to taking part in a Smart Ideas Opportunities Assessment? Please explain your participation.
2. Since the assessment have you completed any of the projects that were identified? Why or why not?
3. Were any of the identified projects delayed? Why or why not?
4. Do you intend to complete these projects in the future? If so, when? Why or why not?
5. Did you receive or apply for any incentives for the installed measures you received from the projects you did complete?

6. Did you complete any projects for which you will not be receiving an incentive? Can you describe the projects? Why did you not pursue an incentive?
7. Has the assessment had any impact on your interest in participating in the Smart Ideas program?
8. Since you completed the assessment have you visited the ComEd website to learn more about the program? Downloaded program materials or applications? Contacted a vendor to receive a quote? Contacted ComEd or KEMA staff to find out more information? Called the ComEd Smart Ideas hotline?

V. Importance of Energy

1. How much and in what ways does energy use impact your business? Would you consider your business to be energy intensive? Are energy costs a concern to you? If so, how much?
2. Do you have staff that manages your facility's energy usage? [*PROBE FOR:* Dedicated or Specialized Energy Management Staff]

VI. Barriers to Participation

1. What do you view as the main barriers to completing the projects listed in the assessment overview you received?
2. What were the main factors contributing to delaying or not completing the projects identified by the assessment? [*PROBE FOR:* First cost? ROI? Payback? Performance risk of the new equipment? Hassle factor/Difficulty in completing the projects?]
3. What are your thoughts on what ComEd could do to help you complete the projects identified in the assessment?

VII. Program Feedback and Recommendations

1. In general, how satisfied are you with the ComEd Smart Ideas Opportunity Assessment you received? Did it meet your expectations? Do you have any additional comments or recommendations?

Thank you for taking the time to discuss the Smart Ideas Opportunity Assessments. Your insights have been very helpful.

5.4.5 Interview Guide for Facility System Assessment (FSA)

ComEd C&I Custom and Prescriptive Program –FAS Participant Interview Guide
June 26, 2012

Facility Assessment Participant Customers

Name of Interviewee: _____ Date: _____
Title: _____ Company: _____

[Note to Reviewer] The Interview Guide is a tool to guide process evaluation interviews with utility staff, implementation contractors, program participants and trade allies. The guide helps to ensure the interviews include questions concerning the most important issues being investigated in this study. Follow-up questions are a normal part of these types of interviews. Therefore, there will be sets of questions that will be more fully explored with some individuals than with others. The interviews will be audio taped.

Introduction

Hi, may I please speak with [name from list]?

My name is ___ and I'm calling from Opinion Dynamics, an independent research firm, on behalf of ComEd. We're talking to customers who recently received a Facility Assessment (FAS) through ComEd's Smart Ideas for your Business Program.

We are interested in your experience with the program and any recommendations you may have. ComEd plans to use this information to improve the energy efficiency programs and services it offers to its business customers.

Would you be willing to speak with me for about 15 minutes? Your responses will be kept strictly confidential.

VIII. Program Awareness and Marketing

4. How did you learn about the Facility Assessment? *[PROBE FOR: ComEd Account Manager and Trade Ally (Contractor).]*
5. Before you heard about the assessment, were you aware of ComEd's energy efficiency programs known as the Smart Ideas for Your Business program? If so, how did you learn about the Smart ideas program? Had you spoken with your account manager about Smart Ideas before discussing the Smart Ideas Opportunity Assessment?
6. What is the best way to reach businesses like yours with information about Smart Ideas program offerings?

IX. Assessment Program Satisfaction

7. How satisfied have you been with the process for receiving the assessment? Was the assessment explained clearly?
8. How satisfied were you with the technical information you received about opportunities for energy efficiency improvements at your facility?
9. Do you recall the name of the assessment provider(s) that you worked with on your project?
10. How satisfied were you with the assessment provider who conducted your facility assessment?
11. Is there anything ComEd could do to improve the Facility Assessment Program?

X. Audit Information

4. What was the most important factor that influenced you to receive the assessment? Cost of the assessment? Lack of staff time/expertise to conduct a similar assessment? Other available resources?
5. Were you aware of the projects that were identified by the assessment before you had the assessment? Did the assessment provide you with additional information you did not know about your facility's opportunities for incentives?
6. When the program first presented a proposal to you for the full-cost of the recommended changes, what did you think of the cost? [*PROBE FOR:* Was it much lower than you expected, somewhat lower than you expected, about what you expected, or much higher than what you expected?]
7. Is there any additional information you would have liked to see in the assessment report?

XI. Impact

9. Have you participated in any of ComEd's Smart Ideas for Your Business programs before? Please explain your participation.
10. Since the assessment have you completed any of the projects that were identified? Why or why not?
11. Were any of the identified projects delayed? Why or why not?

12. Do you intend to complete these projects in the future? If so, when? Why or why not?
13. Did you receive or apply for any incentives for the projects you did complete?
14. Did you complete any projects for which you will not be receiving an incentive? Can you describe the projects? Why did you not pursue an incentive?
15. [*IF INCENTIVES RECEIVED ASK*]Would you have completed the projects recommended by the assessment provider had you not received incentives from ComEd's Smart Ideas for Your Business Facility Assessment Program? Why or why not?
16. Has the assessment had any impact on your interest in participating in the Smart Ideas program?
17. Since you completed the assessment have you visited the ComEd website to learn more about the program? Downloaded program materials or applications? Contacted a vendor to receive a quote? Contacted ComEd or KEMA staff to find out more information? Called the ComEd Smart Ideas hotline?

XII. Importance of Energy

3. How much and in what ways does energy use impact your business? Would you consider your business to be energy intensive? Are energy costs a concern to you? If so, how much?
4. Do you have staff that manages your facility's energy usage? [*PROBE FOR:* Dedicated or Specialized Energy Management Staff]

XIII. Barriers to Participation

4. What do you view as the main barriers to completing the projects listed in the assessment overview you received?
5. What were the main factors contributing to delaying or not completing the projects identified by the assessment? [*PROBE FOR:* First cost? ROI? Payback? Performance risk of the new equipment? Hassle factor/Difficulty in completing the projects?]
6. What are your thoughts on what ComEd could do to help you complete the projects identified in the assessment?

XIV. Program Feedback and Recommendations

2. In general, how satisfied are you with the ComEd Facility Assessment you received? Did it meet your expectations? Do you have any additional comments or recommendations?

Thank you for taking the time to discuss the Facility Assessment Program.
Your insights have been very helpful.