

Commonwealth Edison Company's
Energy Efficiency / Demand Response Plan
Annual Report
Plan Year 4

June 1, 2011 – May 31, 2012



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ES. Executive Summary

This report provides a comprehensive update on the fourth year¹ performance under ComEd's 2011 – 2013 Energy Efficiency and Demand Response Plan (“2011 – 2013 Plan”). It is intended to provide an outline of the successes and challenges encountered during Plan Year 4 (“PY4”), as well as highlight changes to the overall portfolio in Plan Year 5 (“PY5”).² A brief summary of PY4 Department of Commerce and Economic Opportunity (“DCEO”)-sponsored program results in ComEd's service territory is also provided in Section VI.

During PY4, ComEd's 2011 – 2013 Plan proposed a portfolio of initiatives that targeted both residential and business customers. Collectively, these initiatives ensured that program opportunities were available to all of ComEd's customers. Joint residential programs between ComEd, Nicor Gas, North Shore Gas, and Peoples Gas companies were implemented during PY4. The ComEd portfolio included several other activities considered as development and educational initiatives. The resultant portfolio of initiatives was collectively packaged under the *Smart Ideas* banner.

Residential Initiatives:

- Residential ENERGY STAR® Lighting
- Fridge & Freezer Recycling Rewards
- Multi-Family Home Energy Savings
- Single Family Home Energy Savings
- Elementary Energy Education
- Complete System Replacement
- Central AC Efficiency Services (CACES)
- Home Energy Reports

- Clothes Washer Rebates

Business Initiatives:

- Prescriptive and Custom Incentives
- Retro-Commissioning
- New Construction
- Business Instant Lighting Discounts (BILD)
- Compressed Air
- Data Centers
- Small Business Energy Savings

ComEd's 2011 – 2013 Plan was designed to address several key objectives –

- Create value for customers through a range of customer energy efficiency initiatives

¹ The fourth plan year runs from June 1st, 2011 through May 31st, 2012.

² Evaluation reports for Plan Year 4 programs are filed in ICC Docket No. 13-0078.

- Meet energy goals approved by the Illinois Commerce Commission (“ICC” or “Commission”) while adhering to the spending screens
- Lay a solid foundation for energy efficiency programs going forward by investing in the program infrastructure needed to support comprehensive and integrated approaches to energy efficiency
- Develop a diverse portfolio of programs that minimizes portfolio risk while offering numerous energy efficiency opportunities across all customer groups
- Lay the groundwork for demand-side innovation in technology, practice and the integration of energy efficiency and demand response
- Create easy ways for our customers to participate in the programs

In accordance with the provisions of Section 8-103 of the Public Utilities Act (“Act”), 220 ILCS 5/8-103, that took effect August 28, 2007, ComEd’s PY4 annual energy efficiency target was 610,804 megawatt-hours (“MWh”) with an overall budget of \$159.8M (\$119.5M was ComEd’s allocation). ComEd’s *ex post* verified savings were 943,704 MWh, exceeding statutory goals by 55%.

Performance data related to these areas are included in Section VII of this report.

Plan Year 4 Results

ComEd launched its Plan Year 4 *Smart Ideas* portfolio of energy efficiency incentives on June 1, 2011, which ended May 31, 2012. Verified results show that ComEd had exceeded its statutory targets for energy efficiency and demand response. Table ES-1 presents energy efficiency savings achieved for PY4. This table indicates the *ex ante* savings estimates by ComEd and the verified *ex post* savings determined by the independent evaluator. In addition to program activity in PY4, there is

recognition of savings from the deferred installation of compact fluorescent light bulbs (“CFLs”) (“CFL Carryover”) purchased during PY2 and PY3 from Residential ENERGY STAR Lighting. This data is sourced from the independent evaluator’s (Navigant) final PY4 report for ENERGY STAR lighting.

Table ES-1

Energy Efficiency Initiative	Ex Ante Estimated Net Savings (MWH)	Verified Net MWH Savings Achieved
Residential ENERGY STAR Lighting	284,494	319,243
Fridge & Freezer Recycling Rewards	62,627	72,302
Multi-Family Home Energy Savings	9,373	9,456
Single Family Home Energy Savings	358	468
Elementary Energy Education	140	479
Complete System Replacement	364	377
Central AC Efficiency Services (CACES)	2,484	2,571
Home Energy Reports	65,948	66,176
Clothes Washer Rebates	1,366	2,511
C&I Prescriptive and Custom Incentives	273,927	258,012
Mid-Stream C&I Lighting	45,689	63,358
C&I Retro-Commissioning	23,926	25,021
C&I New Construction	12,449	10,400
Compressed Air	4,742	2,997
Small Business Energy Savings	8,583	9,009
Data Centers	-	1,840
CFL Carryover	95,834	99,888
Total Net MWh Saved	892,303	944,142
Statutory Goal	610,804	610,804
MWhs over Goal	281,499	333,338
MWhs (% of Goal)	146%	155%

Banking

The ICC Order that approved ComEd's first Plan – the 2008 – 2010 Energy Efficiency and Demand Response Plan – allowed excess energy savings to be “banked” for future use, limiting ComEd to 10% of the energy savings above the statutory goal for the PY1 – PY3 Plan.

The ICC Order approving the present 2011 – 2013 Plan also permits banking as described in the Stipulation entered into by ComEd and various stakeholders and approved by the Commission. Specifically, the Commission approved the following banking provisions:

- ComEd’s request to accumulate and apply “banked” kilowatt-hour (“kWh”) savings across years – specifically from PY1 through PY4 for application in PY5 – is approved.
- Consistent with the above, applying any banked savings or CFL carryover from PY1 through PY5 to PY6 is also approved.
- The above banking provisions are subject to the following restrictions:
 - In any given Plan year, no more than 15% of that year’s compliance obligation should be met with banked savings from previous Plan years.
 - Except that, in any Plan year for which the statutory target has been adjusted downward to accommodate the rate impact screen, if the availability of banked savings, including banked savings in excess of 15% of the current year’s target, plus planned program savings, would allow ComEd to come closer to reaching the statutory target, the target shall be readjusted upward accordingly.

ICC Docket No. 10-0570 (Order, Dec. 21, 2010) at 53. Consistent with this Order and the Commission’s Order in ICC Docket No. 11-0593, ComEd’s expected banking for PY4 is based on the overall statutory goal for ComEd and DCEO of 727,985 MWh. Although DCEO reported results that were under their goal, ComEd achieved energy savings that made up for DCEO’s shortfall and exceeded the overall goal. As a result, ComEd is claiming all excess savings above 727,985 MWh. Because total savings for ComEd and DCEO are 1,050,617 MWh, ComEd’s expected savings for banking in PY4 is 322,630 MWh.

In total, ComEd's allowable banking for the PY1 – PY4 period is 420,409 MWh, which also includes the Commission-approved banked savings from PY2 – PY3. If all excess savings above ComEd's portion of annual goals could be banked, ComEd would have a cumulative bank of 654,506 MWh at the end of PY4, *i.e.*, ComEd exceeded its portion of statutory goals for PY1 – PY4 by nearly 43%, while exceeding each annual goal during that period. Table ES-2 summarizes ComEd's expected banking through PY4.

Table ES - 2
ComEd Portfolio Banking (Net MWH)

Plan Year	ComEd Net Results	DCEO Net Results	Statutory Goal	Actual Banking	Cumulative Banked
PY1	163,717	17,377	188,739	0	0
PY2	472,132	34,076	393,691	39,369	39,369
PY3	626,715	54,130	584,077	58,408	97,777
PY4	944,142	106,475	727,985	322,632	420,409
Total	2,206,706	212,058	1,894,492	420,409	420,409

Selected Highlights of ComEd’s PY4 Smart Ideas Portfolio:

- ComEd’s PY4 portfolio was cost-effective. Based on Illinois’ version of the Total Resource Cost (“TRC”), ComEd’s PY4 portfolio TRC was 2.00 versus the requirement of 1.0.
- Growth in the energy efficiency portfolio brought an additional **24 direct jobs to the ComEd service territory** on top of the 154 direct jobs from PY3 and helped to lay a foundation for a robust energy efficiency implementation industry in Northern Illinois. The total estimate of 178 does not include the indirect jobs (e.g., installation labor) required for many of the energy efficiency measures.
- **More than 12.6 million CFLs** were sold through **16** participating retail chains and more than **900** individual store locations.
- **Over 50,000 inefficient appliances (i.e., refrigerators, freezers, room air conditioners)** were removed from the ComEd system and recycled in an environmentally friendly manner.
- **Over 48,500 homes** received low-cost energy efficiency product upgrades as part of the Multi-Family and Single Family Home Energy Savings initiatives and Joint Programs with the Gas Companies.
- **There were 346 trade allies enrolled** in *Smart Ideas*’ Commercial and Industrial (“C&I”) Prescriptive and Custom Incentives initiative.

- More than \$35 million was paid in incentives for 4,860 business projects, resulting in \$165 million invested in energy efficiency upgrades in the business sector.
- Retro-Commissioning **completed 50 projects**, up from 34 projects in PY3, and already **45 projects have been accepted during PY4 for completion in PY5**.
- **C&I New Construction achieved 189% of its PY4 goal**, completing 50 applications and adding 106 applications to its pipeline between PY5 – PY8. The program is focusing on the longer-term comprehensive projects.

Key Challenges in Plan Year 4

Although ComEd's residential programs exceeded expectations during PY4, ComEd believes that its overall success requires growth of its business programs. In PY4, there was an increase from 4,407 to 4,860 customer projects in the Prescriptive/Custom Program. Although net savings increased from 214,897 to 258,012 MWh, and the size of projects increased from PY3 to PY4, continued growth in the program will require greater customer participation.

During PY4, ComEd began coordinating activities to implement joint programs with gas utilities within its service territory (*i.e.*, Nicor Gas, Peoples Gas, and North Shore Gas). While this was an opportunity to grow programs and more easily reach customers, it required considerable effort for both electric and gas utility personnel and implementation contractors. Coordination even affected electric and gas evaluation teams, even though there was a shared lead independent evaluator for each utility.

Working with evaluation teams to understand program specific needs in approaching customer surveys and determination of NTG parameters, (*i.e.* free ridership and spillover), is a continuing challenge. A specific example was the evaluated PY3 NTG for Retro-commissioning. In PY3, only 8 of 34 surveys were completed, surveys were conducted months after projects were completed, customers were less engaged, and general survey questions were unclear to the interviewees. This resulted in a PY3 NTG of 0.713, based solely on free ridership. After working to revise the process, the PY4 NTG was determined to be 1.038, which included spillover of 0.136.

For the Appliance Recycling program “Fridge & Freezer Recycling Rewards” (“FFRR”), the PY4 reports indicated high free-ridership within the retail channel (ComEd recycles replaced refrigerators/freezers when customers purchase new units from program retailers). ComEd’s concern is that because the program has been so successful with these retailers, they have adjusted previous practices and recycle everything they can through ComEd’s program. In this case, program influence is not recognized because there appears to be a new status quo regarding disposition of replaced appliances.

Continuing to examine the evaluation process remains a challenge each year as programs evolve in the way they interface with customers.

TRC Results

Following the evaluation of programs, TRC calculations were made for each program and the portfolio as a whole. The evaluation of cost effectiveness is a legislative requirement, and measures performance at the portfolio level to ensure a TRC of 1.0. For PY4, ComEd's portfolio TRC, based on its electric savings and allowable non-energy benefits, was 2.00. At the request of ICC Staff, ComEd recalculated TRCs for Residential Lighting and Multi-family Home Energy Savings programs using assumptions in the PY5 Technical Reference Manual ("TRM"). Based on these modified TRCs for each program, the portfolio TRC increased from 1.99 to 2.00. In either scenario, ComEd's portfolio easily passed its cost-effectiveness test. For individual programs, some programs have calculated TRCs below 1.0. In these cases, ComEd evaluates whether this is a single year or longer term issue, and if changes can be made to programs to improve their cost effectiveness. For example, in PY4, ComEd "sunset" its CACES residential air conditioning program despite modifying program design because ComEd ultimately concluded it would not be a cost-effective program.

Individual program TRC values are provided in each program's description section. The TRCs calculated are based only on ComEd's program costs, electric kWh savings (gas savings for clothes washers – it was not a joint program) and non-energy benefits (e.g. water savings for clothes washers). Impacts from joint program implementation with gas utilities are not reflected and could raise some overall TRCs.

Change in Evaluation Retrospective Approach

Evaluation uncertainty during ComEd's first Plan Cycle, PY1 – PY3, was a risk concern. Frameworks to allow prospective application of Realization Rates and Net-to-Gross factors were developed as part of the Stipulation and approved by the Commission in Docket No. 10-0570. Deemed parameters from

previous evaluations were limited in PY4, in part due to the growth of new programs, but some were used in established programs. ComEd filed the parameters and measures it planned on deeming for PY4 with the ICC, and these were subsequently used in the evaluations. Although an Illinois TRM was developed in PY4, it was not applicable until PY5.

I. Smart Ideas for Your Home[®]

Smart Ideas for Your Home[®] is comprised of a diverse set of residential incentives, each targeting either a specific energy end-use such as lighting or adopting multiple measures within a home. For PY4, there was considerable expansion of residential programs from PY3. Programs that were started as pilots in PY3 were launched as full scale programs in PY4. The targeted residential PY3 savings was 201,169 net MWh and the PY4 target was 296,342 net MWh, a 47% increase. Actual PY4 residential savings were 473,580 MWh, a 60% increase over the planned target.

An important part of the large increase was the development of joint programs with the local gas utilities (*i.e.*, Nicor Gas, Peoples Gas and North Shore Gas). Through implementation cost sharing, ComEd was able to continue participation in Single Family and Multi-family direct install programs. The preponderance of home heating within ComEd's service territory is with natural gas, and likewise almost as many residences have gas hot water heaters. These direct install programs have shifted to primarily gas programs, but ComEd has continued to participate and often been able to provide program management experience with our longer history with these type programs. Two other programs were also offered jointly with one or more gas companies, Joint Elementary Energy Education and Complete System Replacement, which offers gas and electric rebates when a customer installs a high efficiency furnace and a high SEER AC unit at the same time. Neither of these programs was implemented as ComEd-only programs.

The following sections discuss each of the program's initiatives in greater detail.

Residential ENERGY STAR® Lighting

Program Description

ComEd's Residential ENERGY STAR Lighting initiative (*originally known as Residential Lighting*) offered residential customers instant discounts on select ENERGY STAR CFLs, LEDs, and fixtures purchased at participating retailers.

The initiative offered discounts on both traditional spiral CFLs; specialty CFLs, such as bathroom globes, reflectors and dimmable lamps; and LED bulbs and fixtures. Discounted fixtures included desk lamps, ceiling flush mounts and outdoor lamps. In PY4, over 40,000 LED bulbs and fixtures were incented in this program.

Discounts were designed to partially offset the higher cost of ENERGY STAR lighting products relative to comparable incandescent and halogen products and were administered primarily through a markdown on the price manufacturers charge to retailers. Point-of-sale coupons were used in the case of some small retailers.

To complement product availability, the program included an education element through the implementation of in-store point-of-sale material and product demonstrations conducted by *Smart Ideas* field representatives. This effort enabled consumers to directly discuss energy-efficient technologies with *Smart Ideas* representatives and receive information specific to their needs or concerns.

Participating Retailers

Type of Store	No. of Stores	No. of Bulbs Sold
Big Box	123	1,144,346
DIY	139	6,684,885
Warehouse	36	4,104,219
Small Hardware	140	407,848
Grocery/Drug	218	197,984
Dollar Store	262	111,748
Total	918	12,649,030

CFL Recycling

ComEd has always promoted recycling of used CFL bulbs through retail partnerships. Over time retailers have increased their own recycling efforts. As a result, ComEd's involvement in retail recycling is being phased out. ComEd has partnered with retailers to recycle over 200,000 CFL bulbs.

Plan Year 4 Activities

In PY4, the ENERGY STAR lighting program continued to grow in participating retailers and total bulbs sold. Table I-1 presents the non-energy savings metrics.

**Table I-1
Program Metrics**

Program Statistics	Quantity
Standard CFLs sold	11,425,351
Specialty CFLs sold	1,097,670
CFL Fixtures sold	84,539
LED bulbs/fixtures sold	41,470
Total bulbs sold	12,649,030
Participating storefronts	918
Field reps	15
Field rep demonstrations	335
Retail stores offering free recycling (possible through ComEd and Retailer subsidies)	139

Table I-2 compares Navigant's *ex post* estimates of savings with ComEd's initial goal and its *ex ante* estimate of MWh saved, and also presents the program's electric TRC. At the request of ICC Staff, a revised TRC was calculated for Residential Lighting, using assumptions from the PY5 TRM, which reduced expected useful life, included future replacement costs, and modeled future savings reductions as the federal Energy Independence and Security Act ("EISA") impacts baseline replacement bulbs. The net result was an increase in TRC from 4.57 to 4.70, which is even more cost effective.

Table I-2

Program Results (Net MWh)	ComEd Planning Goal (MWh)	ComEd Estimated <i>Ex ante</i> Savings (MWh)	Navigant Verified <i>Ex post</i> Savings (MWh)	Pct. of Goal	ComEd PY4 TRC
Residential ENERGY STAR Lighting	181,601	284,494	319,243	176%	4.70

Fridge & Freezer Recycling Rewards

Program Description

The Fridge & Freezer Recycling Rewards is an appliance recycling program which promotes the retirement of inefficient second refrigerators and freezers, as well as room air conditioners, by offering ComEd residential customers a direct incentive and free pickup. JACO Environmental recycles the units in their Illinois-based facility to ensure that CFCs, foam insulation, and other materials in the old appliances are handled in accordance with the Environmental Protection Agency's *Responsible Appliance Disposal ("RAD") Program*.

Customers can receive \$35 payments for qualifying refrigerator and/or freezer units. The units must be between 10 and 30 cubic feet in size, empty and operational at the time of pickup. The unit must also be accessible with a clear path for removal. When recycling a refrigerator or freezer, customers can also recycle working room air conditioners for an additional \$10 incentive. During a few promotional periods, incentives were raised from \$35 to \$50, which resulted in increased program enrollments.

Plan Year 4 Activity

The Appliance Recycling program surpassed its PY4 MWh goal by 117 percent, while remaining within its planned budget. Additional marketing efforts were made to maintain participation during the typically slow winter period. The retail segment of the program, where customers buying new refrigerators or freezers can have their old, working appliance recycled at the time of delivery, was expanded to include a total of three major retailers. Table I-3 details key measures of program performance.

**Table I-3
Program Metrics**

Program Statistics	Quantity
Refrigerators recycled	43,097
Freezers recycled	7,140
Room air conditioners recycled	813
Total appliances recycled	51,050
Appliances recycled via Retail	10,837
Number of Enrollments	69,672
Number of JACO employees	17
Number of JACO trucks	7

Table I-4 compares Navigant’s *ex post* estimates of savings with ComEd’s initial goal and its *ex ante* estimate of MWh saved and also presents the program’s electric TRC.

Table I-4

Program Results (Net MWh)	ComEd Planning Goal (MWh)	ComEd Estimated <i>Ex ante</i> Savings (MWh)	Navigant Verified <i>Ex post</i> Savings (MWh)	Pct. of Goal	ComEd PY4 TRC
Fridge & Freezer Recycling Rewards	33,371	62,627	72,302	217%	3.72

A key challenge during PY4 was an increase in internal participation goals from 47,120 units at the beginning of PY4 to 50,000 units at mid-year. Marketing the program through “proven” communications channels such as bill inserts and newspaper advertisements did not generate sufficient response to meet the higher goal. To achieve the higher goal, a multi-channel marketing strategy was deployed emphasizing the promotional \$50 incentive level. This strategy was proven effective in increasing participation levels in the final quarter of the year.

The harvest rate for participants remained consistently around 80 percent, but tapered at year-end as the marketing strategy significantly increased enrollments.

Expected Changes for Plan Year 5

The goal for PY5 is to achieve 21,000 MWh in savings, which equates to a 37 percent decrease over PY4's goal. The drop in goal largely reflects reduced per unit savings estimates as the state-wide TRM adopts a new algorithm based on regional in-situ metering studies. Additionally, the appliance pickup target decreased from 50,000 in PY4 to 40,000 in PY5, a 20% drop.

Multi-family Home Energy Savings

Program Description

Multi-family Home Energy Savings is a direct install program focusing on lighting and water measure savings. In PY4, this program was implemented jointly with the gas companies in the ComEd service territory, as the majority of tenant residences have gas water heaters. Lighting savings were achieved through the replacement of less efficient screw-in bulbs with CFLs, and benefited from an expansion of available bulbs to include globes, commonly found above bathroom vanities.

Although hard to forecast, a number of buildings were “found” that used electric water heaters in tenant spaces, and therefore could provide kWh savings for installed EE water measures. ComEd paid 100% of the implementation costs for these “all-electric” buildings as no therm savings were available. Overall, implementing this program jointly with gas companies has enabled ComEd to reach a much larger population of its customers.

Plan Year 4 Activity

Table I-5 summarizes the initiative’s activities:

**Table I-5
Program Metrics**

Program Metrics	
CFLs Installed	251,641
Program Total Faucet Aerators*	86,136
Program Total Showerheads*	43,281
Customers Touched	47,488
All Electric Units Completed	2,705
Joint Units Completed	44,783

*Total is the sum of North Shore, People’s Gas, and Nicor program quantities

Table I-6 compares Navigant’s *ex post* estimates of savings with ComEd’s initial goal and its *ex ante* estimate of MWh saved and also presents the program’s electric TRC. At the request of ICC Staff, a revised TRC was calculated for Multi-Family Home energy savings, using assumptions from the PY5 TRM, which reduced expected useful life, included future replacement costs, and modeled future savings reductions as EISA impacts baseline replacement bulbs. The net result was a drop in TRC from 4.78 to 4.04, which is lower but still highly cost effective.

Table I-6

Program Results (Net MWh)	ComEd Planning Goal (MWh)	ComEd Estimated <i>Ex ante</i> Savings (MWh)	Navigant Verified <i>Ex post</i> Savings (MWh)	Pct. of Goal	ComEd PY4 TRC
Multi-Family HES joint buildings	NA	7,513	NA	NA	NA
Multi-Family HES electric buildings	NA	1,860	NA	NA	NA
Multi-Family HES Total	6,110	9,373	9,456	154%	4.04

Single Family Home Energy Savings

Program Description

Smart Ideas' Home Energy Savings, previously called Single Family Home Performance, is now a joint program with Nicor Gas. It offers single family homeowners direct installation of low-cost, energy-efficient products with an energy assessment for a small customer co-payment.³ The standard co-payment was \$99, but \$49 promotions were offered at times. As a joint program, it has

Low-cost, energy efficient products installed as part of the Single Family Home Performance:

- CFLs
- Low-flow faucet aerators
- Low-flow showerheads
- Hot Water pipe insulation

expanded to offer customers rebates on recommended weatherization upgrades. The incentives for weatherization are instant rebates of 50% of retrofit costs up to a maximum of \$1,250 per home. Although Peoples Gas participated in pilots during PY3, they opted not to run this program in PY4, and ComEd could not cost effectively run it alone in that joint territory.

The program's new implementer, Conservation Services Group ("CSG"), conducted the energy assessments, developed retrofit recommendations, coordinated accepted projects with participating program contractors, and approved the instant rebates. The participating program contractors offered agreed upon fixed pricing for the weatherization projects. Although most of the weatherization measure savings resulted in therm savings, there were also verified savings of 131 MWh, which was 28% of total program electric savings. This program did not target electrically heated homes. As ComEd expected, the majority of electric savings came from direct installation of CFL bulbs (68%).

³ This initiative does not focus on low-income housing, which is covered by the Illinois DCEO.

Plan Year 4 Activity

Table I-7 summarizes the initiative's activities in terms of surveys and direct installs:

**Table I-7
HES Program Metrics**

Program Statistics	Program Quantities	Net MWh Savings
Number of participating homes	1080	NA
Homes receiving CFLs	940	316.7
Homes receiving showerheads	482	6.7
Homes receiving kitchen aerators	138	0.3
Homes receiving faucet aerators	577	1.4
Homes receiving pipe insulation	600	1.9
Homes receiving DHW turndown	199	0
Homes receiving attic insulation	309	55.5
Homes receiving wall insulation	25	0.6
Homes receiving floor insulation	209	5.2
Homes receiving duct insulation	15	0.7
Homes receiving air sealing	313	69.2
CFLs installed	7641	316.7
Programmable t-stats installed	56	2.4

Table I-8 compares Navigant's *ex post* estimates of savings with ComEd's initial goal and its *ex ante* estimate of MWh saved, and also presents the program's electric TRC.

Table I-8

Program Results (Net MWh)	ComEd Planning Goal (MWh)	ComEd Estimated <i>Ex ante</i> Savings (MWh)	Navigant Verified <i>Ex post</i> Savings (MWh)	Pct. of Goal	ComEd PY4 TRC
Single Family HES Total	438	358	468	107%	0.34

Elementary Energy Education

Program Description

Starting in PY4, ComEd participated in a program previously operated by Nicor Gas to reach 5th grade school children and their families. In previous years, ComEd had distributed similar kits as a part of general education and awareness, but this new Elementary Energy Education (“EEE”) program focused on a broader learning experience. As an EE program, its primary intent is to reduce energy consumption from water heating and lighting by presenting a school study element on energy efficiency with 5th grade students and putting into practice energy efficiency tips and measures. This program was implemented by the National Energy Foundation (“NEF”).

The EEE program distributed kits with 3 CFL bulbs, an energy-efficient showerhead, energy-efficient kitchen and bath aerators, a shower timer, flow rate test bag, digital water and ambient temperature thermometer, and other fun and educational inserts.

Plan Year 4 Activity

Table I-9 summarizes the initiative’s activities under the joint program with Nicor Gas:

**Table I-9
EEE Program Metrics**

Joint Program Metrics	
Kits distributed	4,975
CFLs installed	10,373

Table I-10 compares Navigant’s *ex post* estimates of savings with ComEd’s initial goal and its *ex ante* estimate of MWh saved, and also presents the program’s electric TRC.

Table I-10
Elementary Energy Education Electric savings

Program Results (Net MWh)	ComEd Planning Goal (MWh)	ComEd Estimated <i>Ex ante</i> Savings (MWh)	Navigant Verified <i>Ex post</i> Savings (MWh)	Pct. of Goal	ComEd PY4 TRC
CFL savings	N/A	N/A	396	N/A	
Water measure savings	N/A	N/A	83	N/A	
Total program savings	N/A	140	479	N/A	1.36

Program results were lower than expected for installation rates of its water measures (*i.e.*, showerheads, kitchen aerators and bath aerators). These installation rates were lowered based on findings that some families uninstalled the measures after the “school project” was completed and in some cases families had already installed similar measures. Instilling a commitment to energy efficiency is a challenge for education-based programs.

Complete System Replacement

Program Description

Complete System Replacement (“CSR”) is a joint gas/electric measure that was an off-shoot of energy-efficient gas furnace installations. If a customer is replacing a furnace with a high efficiency furnace and an air conditioning unit with a SEER 14.5 or higher, an additional rebate is available for the high efficiency AC unit from ComEd. ComEd does not have high SEER rebates as a standalone measure, but is offering a rebate for the complete system replacement. This program was an adjunct to the gas company’s residential furnace offerings.

This program has two methods of calculating savings – early replacement or replace on burnout (“ROB”). The customer received the same incentive, but the attributed savings either use the existing equipment SEER as baseline (early replacement), or minimum code requirement SEER (“13 SEER”) as baseline for ROB. In PY4, the evaluator decided that nonoperational units and those over 18 years in service would be ROB units. This treatment, and whether there is independence between the furnace operational state and the AC operational state, are issues to be worked out and could impact cost effectiveness of the program.

Plan Year 4 Activity

Table I-11 summarizes the initiative’s activities:

**Table I-11
Program Metrics**

Program Metrics	Units
Operable, ER	565
Operable, ROB	697
Non-operable/unknown	792

Table I-12 compares Navigant's *ex post* estimates of savings with ComEd's initial goal and its *ex ante* estimate of MWh saved, and also presents the program's electric TRC.

Table I-12

Program Results (Net MWh)	ComEd Planning Goal (MWh)	ComEd Estimated <i>Ex ante</i> Savings (MWh)	Navigant Verified <i>Ex post</i> Savings (MWh)	Pct. of Goal	ComEd PY4 TRC
Complete System Replacement	N/A	364	377	N/A	1.11

Central Air Conditioning Efficiency Services (CACES)

Program Description

The Central Air Conditioning Efficiency Services (“CACES”) program was offered under the *Smart Ideas for Your Home* umbrella and included both a Diagnostics and Tune-Up element, and a Quality Installation Services element. The objective of the CACES program was to improve the operating performance of existing central A/C units and to promote the proper sizing and installation of new standard and high efficiency A/C units. Energy savings were achieved from each of these program elements. Independent participating contractors were required to use a Service Assistant (“SA”) tool that is manufactured by Field Diagnostic Services, Inc.

The CACES program, originally launched during PY2, was sunset as of September 2011, with only 4 months of PY4 activity. The program showed some positive impact on installation practices, but it could not cost effectively meet its energy reduction goals. It provided incentives to installation contractors for installing new, higher SEER AC units, but never reached anticipated volumes. During PY4, CACES installed 302 high SEER units. In the CSR program, 2,054 high SEER units were installed during PY4 by paying larger incentives/rebates directly to customers.

Plan Year 4 Activity

Table I-13 shows program metrics for PY4:

**Table I-13
Program Metrics**

Program metrics	Quantity
Tune-ups performed	9,973
QIV installations	704
QIV installations w/ SEER 14+	303

Table I-14 shows the actual PY4 MWh saved compared to the program’s plan and ComEd’s *ex ante* estimates, and also presents the program’s electric TRC.

Table I-14

Program Results (Net MWh)	ComEd Planning Goal (MWh)	ComEd Estimated <i>Ex ante</i> Savings (MWh)	Navigant Verified <i>Ex post</i> Savings (MWh)	Pct. Of Goal	ComEd PY4 TRC
CACES	8,233	2,484	2,571	31%	0.76

Home Energy Report

ComEd continued its PY3 behavioral-based program with OPOWER, with a major expansion to 200,000 customers. During PY4 an additional 20,000 customers were added mid-year as a “fill-in” to address attrition. In PY4, the program’s name officially became Home Energy Report (“HER”).

The purpose of this program is to target a segment of residential users and provide a comparison of their energy usage and the usage of similar customers. Targeted customers receive mailings with statistics on their usage, the comparison with similar “neighbors”, and useful hints regarding energy efficiency. Participants in this program are selected randomly from a larger group of customers who are high electric energy users. Given the general demographics of the target group, a control group must be chosen for comparison purposes. This control group receives no additional energy efficiency information and the savings associated with the target group is determined with a billing analysis comparison between this year and last year (or comparable usage periods) and the changes in the control group to address temporal effects such as weather and the economy.

Plan Year 4 Activity

As stated, the Home Energy Report expanded in PY4 to a nominal 250,000 participants. The verified results in PY3 were 14,487 MWh. Table I-15 shows the actual PY4 MWh saved compared to the program’s plan and ComEd’s *ex ante* estimates, and also presents the program’s electric TRC. The TRC is slightly below 1.0 as the program grows and administrative costs are not completely aligned with non-annualized savings calculations. ComEd does not report implementation costs on an accrual basis.

Table I-15

Program Results (Net MWh)	ComEd Planning Goal (MWh)	ComEd Estimated <i>Ex ante</i> Savings (MWh)	Navigant Verified <i>Ex post</i> Savings (MWh)	Pct. of Goal	ComEd PY4 TRC
Home Energy Report	64,803	65,948	66,176	102%	0.95

Clothes Washer Rebates

Program Description

Clothes Washer Rebates was a new program for ComEd in PY4. The program provided a \$75 instant rebate incentive to customers for the purchase of Energy Star-certified washing machines with a modified energy factor (“MEF”) of 2.0 or greater. Initially, the program targeted top loading washers, but later included some front load washers. This program was only available to ComEd customers and account verification was required.

This program is only planned to run during PY4 and PY5. There are consumer savings associated with water and water heating, but ComEd can only claim kWh savings toward its goals and the gas companies have chosen not to develop a joint program. As a result, this program has one of the highest first year cost/kWh in the residential portfolio.

Plan Year 4 Activity

The program had a slow start and additional retailers and eligible machines were increased over the course of the program year. Initial plan target for participation was 30,000 units sold, while actual sales with rebates were 21,463 units. Table I-16 summarizes the program’s key activities:

**Table I-16
Program Metrics**

Program Metrics	
CEE Tier 1 machines sold	875
CEE Tier 2 machines sold	2,323
CEE Tier 3 machines sold	18,265

Table I-17 shows the actual PY4 MWh saved compared to the program's plan and ComEd's *ex ante* estimates, and also presents the program's electric TRC.

Table I-17

Program Results (Net MWh)	ComEd Planning Goal (MWh)	ComEd Estimated <i>Ex ante</i> Savings (MWh)	Navigant Verified <i>Ex post</i> Savings (MWh)	Pct. of Goal	ComEd PY4 TRC
Clothes Washer Rebates	1,786	1,366	2,511	141%	3.28

II. Smart Ideas for Your Business[®]

Smart Ideas for Your Business[®] is comprised of a diverse number of incentives and delivery channels to ensure relevance and reach among our different business customer segments. The business portfolio achieved 370,637 MWh of net energy savings in PY4, corresponding to 106% of its goal.

As in PY3, the program implementation team combined the Commercial & Industrial (“C&I”) Prescriptive and C&I Custom initiatives into a single, cohesive offering to boost implementation and marketing effectiveness in PY4. This combined initiative is referred to as “Prescriptive and Custom Incentives” within this report, although separate performance metrics continue to be provided individually for each initiative. ComEd launched a mid-stream C&I lighting program by re-tooling its PY3 pilot. New programs for PY4 included: Compressed Air, Small Business Energy Savings, and Data Centers. A commercial real estate program had been planned, but evolved into a marketing channel for the Prescriptive program.

The Retro-Commissioning Program continued its emphasis on commercial measures after separating from the largely industrial compressed air systems. Data Centers became a separate program addressing a specialized grouping of Prescriptive and Custom measures. Small Business Energy Savings launched from a PY3 pilot, which targeted businesses under 100 kW in demand. C&I New Construction continued to grow in PY4 by adding longer term, comprehensive projects to its pipeline.

Prescriptive and Custom Incentives

Program Description

ComEd provided business customers with incentive offerings through the *Smart Ideas for Your Business* program: Prescriptive and Custom. Prescriptive incentives provided the customer with a menu of energy efficient measures that have been given pre-calculated incentive rebates based on their known energy efficiency performance. These incentives were available for common replacement or retrofit projects such as lighting, heating, ventilation and air conditioning (“HVAC”), motors and commercial refrigeration technologies.

ComEd’s Custom incentive offering targeted commercial and industrial projects that included manufacturing process improvements or complex measures for which deemed savings or standardized savings algorithms are not appropriate (or available). Custom incentive amounts were based on a formal engineering estimate of the energy savings anticipated for specific customer projects, including process improvements or new technologies not covered under the Prescriptive incentive offering. Each Custom incentive application and its energy savings estimate were evaluated on a case-by-case basis.

ComEd employs KEMA to assist in the administration of Prescriptive and Custom incentive offerings.

Plan Year 4 Activity

The Prescriptive and Custom program incentive budgets are combined to better manage funding and marketing. Incentives are subject to annual limits or caps that are set per facility premise per year, and these were modified for

- Program Satisfaction Metrics
(Pct. Satisfied)**
- Overall Customer Satisfaction – 96%
 - Satisfaction w/Measures Offered - 88%
 - Satisfaction w/Incentive Amount – 95%

PY4. ComEd introduced two new technical service offerings, Smart Ideas Opportunity Assessments

("SIOA") and Facility and System Assessment ("FAS"). Both were a means for helping customers identify economically feasible projects. The SIOAs were a 2 hour site assessment by a ComEd engineer offered to smaller businesses. The FASs were more comprehensive for customers with peak demand of 500 kilowatts ("kW") or greater. The FAS required a \$5,000 fee, which was refundable if customers undertake projects which qualify for \$10,000 in Prescriptive/Custom incentives.

The Prescriptive and Custom program elements continue to be challenged to expand program reach and offerings. Final combined savings were 3% under goal, but the programs undertook many initiatives in PY4 to expand the program potential, including:

- Increasing per customer incentive caps
- Expanding the list of rebated measures;
- Adding T12 lighting bonus incentive payments;
- Experimenting with trade ally rewards

Table II-1 describes key program metrics during PY4.

**Table II-1
Program Metrics**

Program Statistics	Quantity
Number of applications received	5,807
Number of applications completed	4,860
Amount of Incentives Paid	\$26M
Total Cost of Projects Supported	\$165M
Pct. Prescriptive Projects <i>(by MWh)</i>	91%
Pct. Custom Projects <i>(by MWh)</i>	9%
Pct. Lighting Projects <i>(by MWh)</i>	81%
Pct. VSD Projects (inc. HVAC) <i>(by MWh)</i>	12%
Pct. Refrigeration Projects <i>(by MWh)</i>	2%
Pct. Other Projects <i>(by MWh)</i>	5%
FAS completed	34

SIOA completed	366
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Table II-2 shows the actual PY4 MWh saved compared to the program’s plan and ComEd’s *ex ante* estimates, and also presents the program’s electric TRC.

Table II-2

Program Results (Net MWh)	ComEd Planning Goal (MWh)	ComEd Estimated <i>Ex ante</i> Savings (MWh)	Navigant Verified <i>Ex post</i> Savings (MWh)	Pct. of Goal	ComEd PY4 TRC
Prescriptive	238,252	246,443	234,120	98%	1.30
Custom	28,796	27,484	23,892	83%	1.15
Combined Prescriptive and Custom	267,048	273,927	258,012	97%	1.28

Retro-Commissioning

Program Description

In PY4, Retro-commissioning became a joint program with Nicor Gas, Peoples Gas, and North Shore Gas companies. The program completed 50 projects in PY4 for a total net savings of 25,021 MWh and 1,145,519 therms. This compares to the PY3 results of 34 projects for 15,382 MWh

Retro-Commissioning provides building owners with low-cost adjustments to energy-using equipment to improve the efficiency of the building's operating system with a focus on building controls and HVAC systems.

and 307,399 therms. This program was designed to improve the efficiency of the buildings' energy systems with low and no cost operational measures. ComEd contracted with Nexant to implement this program. Retro-commissioning is achieved primarily through qualified engineering consulting firms, known as Retro-commissioning Service Providers ("RSPs"), who are selected through a competitive RFP process.

The program required that facilities had to be at least five years old, have a peak demand of at least 500 kW, contain at least 150,000 square feet of conditioned floor space and possess a relatively high Energy Use Index ("EUI") compared to the EUIs of similar buildings. Additionally, no major renovation or large capital investment for the facility could be pending.

Participants had to commit to spend between \$15,000 and \$30,000 (increased from PY3) to implement identified retro-commissioning measures that would provide an estimated total project simple payback of less than 1½ years, based upon electric energy savings. Operations and maintenance staff had to express a commitment for active involvement in the process as well.

Significant changes in the program have increased its scope and market for services. Other changes have facilitated participation and the ability of participants to complete improvements before the end of the program year:

- Natural gas savings are now addressed in the program through the joint offering with Nicor Gas and Peoples Gas and North Shore Gas. The change accompanies an increased customer spending commitment of \$5,000 or \$10,000, depending on project size.
- The Retro-Commissioning Program has “spun-off” Compressed Air into a stand-alone program.
- Where Service Providers can provide synergy cost savings, multiple building projects can now be aggregated to reach the 500 peak kW participation requirement for a single retrocommissioning project. This change enables campuses to include smaller buildings in the program.
- Guidelines were established to allow buildings served by district energy plants to participate.
- The number of eligible commercial building RSPs expanded from 8 to 23 commercial building RSPs compared to PY3.
- Large projects could be split over program years to facilitate timely implementation.

Plan Year 4 Activity

The program came short of its PY4 goal of 26,880 MWh of energy savings with 50 participants including: commercial office buildings, data centers, hotels, hospitals, large retail stores, and industrial customers. By allowing a longer time frame for completing projects, PY5 began its year with 45 accepted projects.

Table II-3 compares Navigant’s *ex post* estimates of savings with ComEd’s initial goal and its *ex ante* estimate of MWh saved, and also presents the program’s electric TRC.

Table II-3

Program Results (Net MWh)	ComEd Planning Goal (MWh)	ComEd Estimated <i>Ex ante</i> Savings (MWh)	Navigant Verified <i>Ex post</i> Savings (MWh)	Pct. of Goal	ComEd PY4 TRC
Retro-commissioning	26,880	23,926	25,021	93%	1.50

New Construction

Program Description

The program is designed to capture immediate and long-term energy efficiency opportunities available during the design and construction of new buildings, substantial additions and major renovations in the non-residential market. In PY4, the program was operated jointly with Nicor Gas in the overlapping service territories, and ComEd offered only electric savings incentives in its remaining service territory. ComEd contracted with Energy Center of Wisconsin (“ECW”) for program design and implementation.

C&I New Construction Program offers:

- *Building Analysis*
- *Design Assistance*
- *Technical Education and training*
- *Financial Assistance*

Available Program “Tracks”:

- *Comprehensive – integrated building design*
- *Systems – when limited integration is available*
- *Small Buildings – improved lighting and daylighting*

The program uses a building sciences approach to expand marketplace knowledge and foster the design and construction of high performance commercial buildings that provide superior energy efficiency, integrated systems performance, comfort and highly productive indoor environments. The program provides an assembly of new construction technical assistance; whole building energy modeling and life cycle analysis; technical education and training; and financial incentives to building owners, designers, architects, and engineers to surpass the 2009 IECC standard for new construction practices by at least 10 percent. During PY4, ECW conducted five all-day training sessions with 221 attendees to describe their design practices and to promote the program. Although just kicking off in PY4 as a joint program, the addition of gas measures allows a more holistic view of energy savings for new buildings in the Nicor service territory.

In order to meet the needs of projects of various size, complexity and stage in the design cycle, the program offers three project tracks. The ‘systems track’ is intended for less complex projects, those

with limited opportunities for integrated design, or those in the later stages of the design process. It allows for less involvement by implementer and offers fixed incentives for improving lighting and HVAC systems. A ‘comprehensive track’ offers the highest level of technical assistance and financial incentives to address building design, resulting in a holistic, integrated and efficient building design. The comprehensive option is most effective when the New Construction team is involved very early in the building design process. A third track for the commercial new construction of small buildings offers assistance and incentives for improved lighting and daylighting features. No projects were completed in the third track (small buildings) and it is being discontinued.

Plan Year 4 Activity

The program exceeded its PY4 goal of 5,502 MWh of energy savings with verified savings of 10,400 MWh and 21,300 therms from 50 participants. In PY4 savings were generated from 44 projects on the “systems track” and 6 projects on the “comprehensive track”. In PY4, 157 applications were submitted, of which 70 were accepted, and 35 completed within the program year. Given the typical long development time, the approved applications not completed in PY4 are scheduled to be completed in PY5 and later. This program continues to shift participation from the systems track to the comprehensive track.

**Table II-4
Program Metrics**

Program Statistics	Quantity
Number of applications received	157
Number of applications approved	147
Number of applications completed	50
Amount of Incentives Paid	\$1,702,050
Building area affected (Sq. ft.)	6,233,000

Table II-5 compares Navigant's *ex post* estimates of savings with ComEd's initial goal and its *ex ante* estimate of MWh saved, and also presents the program's electric TRC.

Table II-5

Program Results (Net MWh)	ComEd Planning Goal (MWh)	ComEd Estimated <i>Ex ante</i> ¹ Savings (MWh)	Navigant Verified <i>Ex post</i> ² Savings (MWh)	Pct. of Goal	ComEd PY4 TRC
New Construction	5,502	12,449	10,400	189%	2.50

Mid-stream Incentives

Program Description

Mid-Stream Incentives was a pilot in PY3, and was launched as a stand-alone program in PY4. This program provides incentives to electrical distributors to reduce the purchase cost of lighting to its business customers. In PY4, the program incented only sales of CFL bulbs.

Plan Year 4 Activity

During PY4, the most important activity was signing up participating electrical distributors – many did not consider CFL sales as a significant part of their business. In PY4, the program increased its participating distributors from 4 in PY3 to 18, and bulb sales increased from 5,102 in PY3 to 575,252. Table II-6 summarizes the program’s activities:

**Table II-6
Program Metrics**

Program Metrics	
Standard CFLs Sold	194,180
Specialty CFLs Sold	376,322
High Wattage Bulbs Sold	4,750
Total Bulbs Sold	575,252
Customers Touched	2,495
Unique distributors	18

Table II-7 compares Navigant’s *ex post* estimates of savings with ComEd’s initial goal and its *ex ante* estimate of MWh saved, and also presents the program’s electric TRC.

Table II-7

Program Results (Net MWh)	ComEd Planning Goal (MWh)	ComEd Estimated <i>Ex ante</i> Savings (MWh)	Navigant Verified <i>Ex post</i> Savings (MWh)	Pct. of Goal	ComEd PY4 TRC
Mid-Stream Lighting	19,979	45,689	63,358	317%	4.92

Compressed Air

Program Description

Compressed Air was launched as a full scale program in PY4, as it began as a specialized industrial study-based pilot under Retro-commissioning in PY3. One difference from a simple study-based program is that it can suggest more capital intensive measures to achieve energy savings. In the more operational review, the engineering study will identify leaks to repair along with low cost/no cost measures to improve system operations.

ComEd selected Nexant, Inc. to be the program administrator responsible for all aspects of the program. Actual engineering studies are performed by specialized Compressed Air Service Providers (“CASP”), who directly interface with customers during engineering reviews and implementation of accepted recommendations. Nexant is responsible for the recruitment and training of the CASPs and overview of their work.

Criteria for eligible projects include:

1. Facility must have minimum of 250 hp (combined) of compressors in primary system
2. Compressed air system, including controls, must not be scheduled for significant upgrades
3. Applicant must repair 50% of air leak volume identified in study at their expense
4. Program approved CASP must be used

Plan Year 4 Activity

Compressed Air did not meet its first year targets as 24 applications were received but only 9 were completed versus the original target of 26 completions. A number of projects slipped into PY5 due to implementation timelines. At the end of PY4, 30 applications were accepted for PY5 implementation.

Table II-8 summarizes the programs activities:

**Table II-8
Program Metrics**

Program Metrics	
# of applications received	24
# of applications completed	9
# of approved CASP	5

Table II-9 compares Navigant's *ex post* estimates of savings with ComEd's initial goal and its *ex ante* estimate of MWh saved, and also presents the program's electric TRC. A first year TRC below 1.0 was not completely unexpected given slippage of projects and the development of the PY5 pipeline.

Table II-9

Program Results (Net MWh)	ComEd Planning Goal (MWh)	ComEd Estimated <i>Ex ante</i> Savings (MWh)	Navigant Verified <i>Ex post</i> Savings (MWh)	Pct. of Goal	ComEd PY4 TRC
Compressed Air	18,151	4,742	2,997	17%	0.76

Data Centers

Program Description

The Data Centers Efficiency program was launched in June 2011. The new Data Centers Efficiency program provides incentives to both new and existing data centers for implementing energy efficiency measures. Data center energy efficiency measures must result in a reduction of electric energy usage due to an improvement in system efficiency. Projects that result in reduced energy consumption without an improvement in system efficiency are not eligible for incentives.

ComEd selected Willdan Energy Solutions (Willdan) as its program administrator responsible for day-to-day operations. Willdan is responsible for all aspects of the program including participant coordination, technical service provider recruitment and training, logistical support, marketing / outreach and technical review for projects in the program. One of the main challenges in this program is reliability (*i.e.*, keeping equipment on-line takes precedence over energy efficiency). Another challenge in the first year is establishing baselines for savings since there are no industry standards.

Plan Year 4 Activity

In PY4 only two projects were completed. The low activity is offset by the large potential for savings with large data centers. The PY4 NTG evaluation resulted in 0.43 when one of the two projects appeared to have a very high free ridership component.

Table II-10 shows Navigant's *ex post* estimates of savings. There was no planning goal set since it was uncertain if a project could be completed in the first year and ComEd's did not make an *ex ante* estimate due to uncertainties. Shown are the verified savings and the program's electric TRC.

Table II-10

Program Results (Net MWh)	ComEd Planning Goal (MWh)	ComEd Estimated <i>Ex ante</i> Savings (MWh)	Navigant Verified <i>Ex post</i> Savings (MWh)	Pct. of Goal	ComEd PY4 TRC
Data Centers	NA	NA	1,840	NA	1.61

Small Business Energy Savings

Program Description

The Small Business Energy Savings (“SBES”) Program was launched from a pilot in PY3. The SBES program is designed to achieve energy savings goals by educating ComEd/Nicor Gas and ComEd/Peoples Gas/North Shore Gas non-residential customers about electric and natural gas opportunities through on-site assessments. Energy advisors from Peoples Gas/North Shore Gas implementer Franklin Energy or Nicor Gas implementer Nexant conduct a high-level walk-through assessment of each site. At the time of the assessment, customers can receive direct installation of energy efficient measures at no cost to them. These direct installed measures include: low-flow faucet aerators and showerheads, pre-rinse spray valves, vending machine controls, and compact fluorescent lights. On a pilot basis, some customers were offered free installed programmable thermostats.

In addition to direct installations, assessments identified additional retrofit savings opportunities which were eligible for incentives of 30 to 70 percent for select, low-cost natural gas and electric energy efficiency measures that would be installed by a local contractor at a second on-site visit. Participants must be both a ComEd customer with peak monthly demand of less than 100 kW and a Nicor Gas or Peoples Gas/North Shore Gas customer who uses less than 60,000 therms per year.

Plan Year 4 Activity

As previously stated, during PY4 gas measures were offered for both direct installed or contractor installed. The gas savings fell short of expectations, and additional gas measures are being reviewed requiring contractor installation. Additionally, each gas utility is considering increasing gas incentives to align closer to small business expectations and encourage program participation. For electric savings, the program achieved 151% of its planning goal and after a slow start in the first quarter it

picked up traction as the year progressed. The small business target base is considered hard-to-reach, and implementation strategies to create awareness and develop trust within the local communities were extremely important. Table II-11 summarizes the initiative's activities:

**Table II-11
Program Metrics**

Program Metrics	
Assessments Completed	1,404
Direct Installed Electric Measures	1,474
Contractor Installed Electric Measures	26,368
Contractor Installed Projects (ComEd)	401
Contractor Installed Projects (PG/NSG)	222
Contractor Installed Projects (Nicor)	162
Total ComEd Completed Projects	690

Table II-12 compares Navigant's *ex post* estimates of savings with ComEd's initial goal and its *ex ante* estimate of MWh saved, and also presents the program's electric TRC.

Table II-12

Program Results (Net MWh)	ComEd Planning Goal (MWh)	ComEd Estimated <i>Ex ante</i> Savings (MWh)	Navigant Verified <i>Ex post</i> Savings (MWh)	Pct. of Goal	ComEd PY4 TRC
Small Business Energy Savings	5,960	8,583	9,009	151%	1.99

III. R&D / Emerging Technologies

ComEd is allowed to spend up to 3 percent of its portfolio budget on research and development (“R&D”) / emerging technologies. For PY4, ComEd allocated \$3.0 million for these initiatives and spent under \$1.0 million. The direct program activities for PY4 were the testing of program concepts primarily for business application – a behavioral program with Agentis and a monitoring based commissioning program with PECl. No savings from R&D efforts were included in PY4 results. The Agentis C&I behavioral program is continuing into PY5 and will likely measure savings then.

IV. Third Party Programs

In ComEd's 2011 – 2013 Plan, it issued RFP's for third party administered programs where ComEd would purchase net savings for an agreed upon payment (cents/kWh). The concept was to look for niche programs outside the utility programs and let market creativity have a chance at developing energy efficiency programs. Three contracts were awarded for the three-year period covered by ComEd's 2011 – 2013 Plan.

RLD Resources LLC ("RLD") offered a program to install smart thermostats/controllers for businesses, which act as low-cost automation, monitoring, and proactive control of HVAC systems. The targeted customers were end-users with between 100-400 kW in electrical demand.

Resource Solutions Group ("RSG") proposed a computer efficiency suite with a centralized computer management ("CPM") software as the main component. This program was targeted towards private schools and business. The CPM would shut down individual desktop applications during off-hours.

Efficiency 2.0 was awarded the third program, a residential behavioral program offering on-line services to motivate participants to save energy. This program was not to overlap participants with ComEd's existing residential behavior program, Home Energy Reports. The Efficiency 2.0 program was based on opt-in participation and expected to achieve greater savings through increased customer interactions.

Plan Year 4 Activity

For much of PY4, the Third Party Programs were in start-up mode, establishing contractual agreements and targeting participants. In PY4, only the RLD thermostat program provided measured results of 34 net MWh.

V. ComEd Summary

ComEd's *Smart Ideas* portfolio is the product of ComEd's Commission-approved 2011 – 2013 Plan, which was developed by ComEd in response to the requirements of Section 8-103 of the Act, the purpose of which is to encourage customers to reduce energy consumption.

In Plan Year 4 (June 1, 2011 through May 31, 2012), the *Smart Ideas* portfolio achieved 943,704 MWh in energy savings, exceeding its statutory goal of 610,804 MWh by 55%. Since the energy efficiency program launched on June 1, 2008, ComEd has increased incremental annual energy savings by over 2,400,000 MWh with total customer savings estimated at over 4,600,000 MWh.

Since program inception, the *Smart Ideas* portfolio has put ComEd customers on track to save more than \$450 million in energy costs versus the Rider EDA charges of \$262 million. ComEd customers will continue to save money over the remaining lifetimes of their installed energy efficiency measures.

VI. DCEO Summary - ComEd Service Territory

Per the Act, DCEO was assigned 25% of the energy efficiency measures, which ComEd and DCEO agreed to define as 25% of the total portfolio spending screen. In addition, DCEO agreed to specific goals defined for the public sector and low income programs. The Act required 10% of the overall portfolio be dedicated for public sector customers. For low income customers, a target of 6% of the overall portfolio was set based on the number of households at or below 150% of the poverty level.

For PY4, DCEO's statutory portfolio goal for the ComEd service territory was 113,624 MWhs. The results for DCEO are provided below.

Table VI-1

Program	Expected kWh Savings	Realized Gross kWh Savings	Realized Net kWh Savings
Affordable Housing Construction	3,008,394	3,301,957	3,301,957
Building Operator Certification	Not Specified	Not Specified	1,343,298
Low Income Res Retrofit - Weatherization	6,714,047	5,528,655	5,528,655
Low Income Res Retrofit - Home Improvement	540,614	314,346	314,346
Public Sector Retro-Commissioning	4,973,207	4,874,259	4,874,259
Efficient Living Program	1,258,991	1,041,612	1,041,612
Custom Incentives Program	43,324,146	41,155,149	38,871,022
Standard Incentives Program	43,414,120	52,236,242	50,413,262
New Construction Program	390,977	357,165	340,405
Lights for Learning Program	Not Specified	512,793	446,129
Totals	103,624,496	109,322,178	106,474,945

ComEd is responsible for administering funds, received from ComEd customers, for the DCEO energy efficiency projects completed within the ComEd Service Territory. For PY4, DCEO submitted funding requests for \$35.0M of their spending screen budget of \$39.5M.

VII. Data Tables

Table VII-1 shows ComEd's performance, by program, for MWh saved. The table compares the Plan estimates with ComEd's *ex ante* results and Navigant's *ex post* results.

Table VII-1

	ComEd Target	ComEd Reported Results (<i>Ex Ante</i>)		Navigant Results (<i>Ex Post</i>)	
	Net MWH Savings	Net MWH Savings	Pct. Of Plan	Net MWH Savings	Pct. Of Plan
Residential					
Lighting Discounts	181,601	284,494	157%	319,243	176%
Home Energy Report	64,803	65,948	102%	66,176	102%
Fridge Freezer Recycle Rewards	33,371	62,627	188%	72,302	217%
Multi-Family Home Performance	6,110	9,373	153%	9,456	155%
Single Family Home Performance	438	358	82%	468	107%
Clothes Washer Rebates	1,786	1,366	76%	2,511	141%
CACES	8,233	2,484	30%	2,571	31%
Joint Elem Education		140		479	
Complete System Replacement		364		377	
Total Residential	296,342	427,154	144%	473,582	160%
C&I					
C&I Prescriptive	267,048	246,443	103%	234,120	97%
C&I Custom		27,484		23,892	
Mid stream C&I Lighting	19,979	45,689	229%	63,358	317%
Retro-Commissioning	26,880	23,926	89%	25,021	93%
New Construction	5,502	12,449	226%	10,400	189%
Compressed Air	18,151	4,742	26%	2,997	17%
Small Business	5,960	8,583	144%	9,009	151%
Data Centers	-	-		1,840	
Others	5,425	-	0%	-	0%
Total C&I	348,945	369,315	106%	370,637	106%
PY4 Program Totals	645,287	796,469	123%	844,220	131%
Third Party Admin Programs & CFL Carryover					
Third Party				34	
PY2 Carryover		35,220		39,275	
PY3 Carryover		60,614		60,613	
Portfolio Totals (with CFL Carryover)	645,287	892,303	138%	944,142	146%
Statutory Goal	610,804	892,303	146%	944,142	155%

Table VII-2 shows ComEd's potential and actual savings banked for PY1 – PY4. These savings are available for use through Plan Year 6 to achieve applicable energy savings goals. Banked savings from PY1 – PY3 were limited to 10% of statutory goal when results exceeded goal.

Table VII-2

Plan Year	ComEd Net Results	DCEO Net Results	Statutory Goal	Actual Banking	Cumulative Banked
PY1	163,717	17,377	188,739	0	0
PY2	472,132	34,076	393,691	39,369	39,369
PY3	626,715	54,130	584,077	58,408	97,777
PY4	944,142	106,475	727,985	322,632	420,409
Total	2,206,706	212,058	1,894,492	420,409	420,409

Table VII-3 shows the comparison of the Plan budget versus Actual expenditures for PY4 for Rider EDA expenses. It should be noted that ComEd incurred additional internal labor costs that are not included as Rider EDA expenses, but are estimated in Table VII-4.

Table VII-3

	Planned Budget *	Actual Expenditures (Total Rider EDA Expenses)
RESIDENTIAL EE PROGRAM COSTS		
Residential Lighting	\$ 18,371,504	\$ 18,880,051
Home Energy Report	\$ 2,774,112	\$ 2,756,209
Appliance Recycling	\$ 8,378,891	\$ 8,205,237
HVAC Diagnostics & w/Quality Installation (CACES)	\$ 4,153,558	\$ 1,060,472
Multi-family All-electric Sweep	\$ 1,393,522	\$ 1,599,177
Appliance Rebate	\$ 2,973,983	\$ 2,072,247
Single Family Home Performance	\$ 364,890	\$ 464,795
Residential Complete System Replacement (CSR)	\$ -	\$ 1,093,334
Joint Elementary Education Program	\$ -	\$ 127,055
Residential New Construction	\$ 87,638	\$ 75,622
Total Residential Programs	\$ 38,498,098	\$ 36,334,198
C&I EE PROGRAM COSTS		
C&I Prescriptive	\$ 38,912,858	\$ 35,981,556
C&I Custom	\$ 6,105,332	\$ 3,214,725
C&I Retrocommissioning	\$ 5,032,168	\$ 4,838,229
C&I New Construction	\$ 2,612,468	\$ 2,573,760
C&I Compressed Air	\$ 2,072,473	\$ 1,276,441
C&I Midstream Incentives	\$ 1,496,875	\$ 2,857,975
C&I Small Business Direct Install	\$ 3,389,913	\$ 2,577,879
Energy Efficiency RFP	\$ 1,483,350	\$ -
C&I CACES	\$ 262,538	\$ -
C&I Commercial Real Estate	\$ 702,697	\$ 424,543
C&I Data Center	\$ 416,089	\$ 288,102
Total C&I Programs	\$ 62,486,761	\$ 54,033,209
OTHER COSTS		
Third Party Program Admin.	\$ 1,200,000	\$ 1,039,262
Demand Response	\$ 1,274,210	\$ 1,310,922
DCEO	\$ 39,522,619	\$ 35,049,987
R&D / Emerging Technologies	\$ 3,057,036	\$ 974,156
M&V	\$ 3,557,036	\$ 3,198,828
Educational/ Municipal/ Outreach/ EIO Energy Star	\$ 4,770,441	\$ 4,498,945
Other Portfolio Costs	\$ 4,643,385	\$ 4,752,181
Total Other	\$ 58,024,727	\$ 50,824,281
Total Portfolio Costs	\$ 159,009,586	\$ 141,191,688
Total On-Bill Financing Costs	\$ 826,000	\$ 173,494
Total PY4 Rider EDA Costs	\$ 159,835,586	\$ 141,365,182

* Plan Budget adjusted to Spending Screen PY4 as filed in PY4 Rate filing.

Table VII-4 shows the breakdown of PY4 by contractor, incentive, marketing and labor costs across the programs.

**Table VII-4
PY4 Rider Portfolio Expenses**

	Energy Efficiency Expenses						TOTAL Non-Rider EDA Employee Labor Costs
	Contractor Costs	Incentive Costs	Marketing Costs	TOTAL Non-Labor Costs	Rider EDA Labor Costs	TOTAL Rider EDA Expenses	
	a	b	c	d	e	f	
				a+b+c			
C&I EE PROGRAM COSTS							
C&I Prescriptive	\$ 7,065,013	\$ 24,441,689	\$ 4,247,354	\$ 35,754,056	\$ 227,500	\$ 35,981,556	\$ 390,171
C&I Custom	\$ 149,955	\$ 2,612,070	\$ 330,200	\$ 3,092,225	\$ 122,500	\$ 3,214,725	\$ 437,834
C&I Retrocommissioning	\$ 1,654,339	\$ 2,876,500	\$ 219,890	\$ 4,750,729	\$ 87,500	\$ 4,838,229	
C&I New Construction	\$ 705,736	\$ 1,702,050	\$ 78,474	\$ 2,486,260	\$ 87,500	\$ 2,573,760	
C&I Compressed Air	\$ 657,233	\$ 479,570	\$ 52,138	\$ 1,188,941	\$ 87,500	\$ 1,276,441	
C&I Midstream Incentives	\$ 546,443	\$ 2,126,152	\$ 97,880	\$ 2,770,475	\$ 87,500	\$ 2,857,975	
C&I Small Business Direct Install	\$ 893,131	\$ 1,235,702	\$ 274,046	\$ 2,402,879	\$ 175,000	\$ 2,577,879	\$ 51,854
Energy Efficiency RFP	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
C&I CACES	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
C&I Commercial Real Estate	\$ 130,016	\$ -	\$ 207,027	\$ 337,043	\$ 87,500	\$ 424,543	
C&I Data Center	\$ 152,011	\$ -	\$ 48,591	\$ 200,602	\$ 87,500	\$ 288,102	
Total C&I Programs	\$ 11,953,877	\$ 35,473,733	\$ 5,555,600	\$ 52,983,210	\$ 1,050,000	\$ 54,033,209	\$ 879,858
RESIDENTIAL EE PROGRAM COSTS							
Residential Lighting	\$ 2,493,725	\$ 15,768,896	\$ 477,430	\$ 18,740,051	\$ 140,000	\$ 18,880,051	
Home Energy Report	\$ 2,445,543	\$ -	\$ 170,666	\$ 2,616,209	\$ 140,000	\$ 2,756,209	
Appliance Recycling	\$ 4,312,487	\$ 2,038,500	\$ 1,854,250	\$ 8,205,237	\$ -	\$ 8,205,237	\$ 103,709
HVAC Diagnostics & w/Quality Installation (CACES)	\$ 1,037,939	\$ -	\$ 22,533	\$ 1,060,472	\$ -	\$ 1,060,472	\$ 34,570
Multi-family All-electric Sweep	\$ 209,114	\$ 1,266,119	\$ 36,444	\$ 1,511,677	\$ 87,500	\$ 1,599,177	
Appliance Rebate	\$ 298,495	\$ 1,609,725	\$ 129,027	\$ 2,037,247	\$ 35,000	\$ 2,072,247	
Single Family Home Performance	\$ 190,447	\$ 123,318	\$ 63,530	\$ 377,295	\$ 87,500	\$ 464,795	
Residential Complete System Replacement (CSR)	\$ 125,292	\$ 832,492	\$ 37,550	\$ 995,334	\$ 98,000	\$ 1,093,334	\$ 17,285
Joint Elementary Education Program	\$ 75,700	\$ 22,240	\$ 1,115	\$ 99,055	\$ 28,000	\$ 127,055	
Residential New Construction	\$ 52,828	\$ -	\$ 8,794	\$ 61,622	\$ 14,000	\$ 75,622	\$ 17,285
Total Residential Programs	\$ 11,241,570	\$ 21,661,290	\$ 2,801,338	\$ 35,704,198	\$ 630,000	\$ 36,334,198	\$ 172,848
THIRD PARTY PROGRAM COSTS							
Third Party Program Admin.	\$ 1,039,262			\$ 1,039,262	\$ -	\$ 1,039,262	\$ 131,248
DCEO PROGRAM COSTS							
DCEO	\$ 35,049,987			\$ 35,049,987	\$ -	\$ 35,049,987	
DEMAND RESPONSE COSTS							
Central AC Cycling	\$ 1,310,922			\$ 1,310,922	\$ -	\$ 1,310,922	
EDUCATION / MARKET TRANSF COSTS							
Education/Outreach	\$ 3,970,888			\$ 3,970,888	\$ -	\$ 3,970,888	\$ 488,646
Municipal Outreach	\$ 67,308			\$ 67,308	\$ -	\$ 67,308	
Market Transformation EIO/EDS	\$ 460,749			\$ 460,749	\$ -	\$ 460,749	\$ 155,563
Total Educational Market Transf Costs	\$ 4,498,945			\$ 4,498,945		\$ 4,498,945	\$ 644,209
R&D / Emerging Technologies							
R&D / Emerging Technologies	\$ 974,156			\$ 974,156	\$ -	\$ 974,156	\$ 25,927
PORTFOLIO COSTS							
Portfolio Administration	\$ 2,002,949			\$ 2,002,949	\$ -	\$ 2,002,949	
Labor (Non- Program Specific)	\$ -			\$ -	\$ 2,749,232	\$ 2,749,232	\$ 557,907
Total Portfolio Admin Costs	\$ 2,002,949			\$ 2,002,949	\$ 2,749,232	\$ 4,752,181	\$ 557,907
Measurement & Verification (ComEd Only)							
Measurement & Verification (ComEd Only)	\$ 3,557,036			\$ 3,557,036	\$ -	\$ 3,557,036	
Total Portfolio	\$ 71,628,704	\$ 57,135,023	\$ 8,356,938	\$ 137,120,665	\$ 4,429,232	\$ 141,549,896	\$ 2,411,997
Total Portfolio - ComEd only	\$ 36,578,717	\$ 57,135,023	\$ 8,356,938	\$ 102,070,678	\$ 4,429,232	\$ 106,499,909	\$ 2,411,997