



# **Plan Year 4 through 6 Total Resource Cost (TRC) Test Results and Impact Summary Evaluation Report**

**Second Triennial Energy Efficiency Plan:  
Gas Plan Year 4-6  
(6/1/2014-12/31/2017)**

**Presented to:  
North Shore Gas**

**Final**

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## North Shore Gas Total Resource Cost Test Results and Impact Summary Evaluation Report

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## 1. EXECUTIVE SUMMARY

This report provides Navigant’s summary reporting of verified energy savings and cost effectiveness results for the North Shore Gas (NSG) Energy Efficiency Plan (EEPS) portfolio of programs for GPY4 through GPY6<sup>1</sup>. The verified annual first year net savings of 5,441,047 therms<sup>2</sup> exceeded its compliance goal<sup>3</sup> of 4,990,453 net therms by 9 percent. Based on the Illinois TRC calculation, the portfolio TRC of 1.13 has met the statutory cost effectiveness test.

### 1.1 Portfolio Total Resource Cost (TRC) Test Results

This section summarizes findings regarding the cost-effectiveness of the North Shore Gas portfolio of energy efficiency programs during the three year and seven-month time period from program year four through program year six. The calculations and results are to inform future planning for the implementation of efficiency programs, as well as to ensure North Shore Gas met its regulatory responsibility to implement a cost-effective portfolio of energy efficiency programs during the three-plus year period.

Navigant’s evaluation of the cost effectiveness of the North Shore Gas energy efficiency portfolio includes two tests:

- Illinois (IL) TRC Test, which includes benefits from avoided environmental damages
- Utility Cost Test (UCT)

Importantly, the North Shore Gas portfolio is cost-effective under both tests performed by Navigant. The various cost-effectiveness tests and assumptions employed are meant to give a range of perspectives on the cost-effectiveness of the North Shore Gas portfolio. The cost effectiveness methodology and description of data inputs is provided in Section 2.

The TRC and UCT results are separated into two portfolio groups: The Energy Efficiency Plan (EEPS) portfolio of programs, and the portfolio of income eligible and public sector programs formerly administered by the Illinois Department of Commerce and Economic Opportunity (DCEO). During the GPY6 “Bridge Period”, June 1, 2017 through December 31, 2017, responsibility for administering the former DCEO energy efficiency programs was transferred to Illinois gas and electric utilities.

Table 1-1 summarizes the three-plus year combined results for the North Shore Gas portfolio at the program, sector, and portfolio levels. The results presented in this table are based on the IL TRC, which is the primary test utilized by Navigant for ascertaining the portfolio’s cost effectiveness. The results show that across the entire three-plus program year period, the EEPS portfolio was cost effective with a TRC ratio of 1.13, which breaks down to 1.26 for the Residential sector and 1.21 for the Commercial and Industrial sector. The former DCEO programs were not cost effective as a whole, with a 0.62 TRC.

<sup>1</sup> Gas Program Year 4 (GPY4) began on June 1, 2014 and ended May 31, 2015. Gas Program Year 5 (GPY5) began on June 1, 2015 and ended May 31, 2016. Gas Program Year 6 (GPY6) began on June 1, 2016 and ended December 31, 2017. GPY6 included a seven month “Bridge Period” from June 1, 2017 through December 31, 2017 to align program year and calendar year going forward.

<sup>2</sup> Unless noted, therm values are first year annual savings.

<sup>3</sup> The compliance goal consists of the sum of the net annual therm savings goals for GPY4 through GPY6 plus the bridge period. The EEPS compliance goal for GPY4, GPY5, and GPY6 is 4,178,054 net annual therms, and the goal for the EEPS bridge period is 812,399 net annual therm savings, from Exhibit E in the Joint Verified Petition submitted in Docket 17-0212. Navigant combined the three-year EEPS compliance goal with the bridge period EEPS goal for the total of 4,990,453 net annual therms.



## North Shore Gas Total Resource Cost Test Results and Impact Summary Evaluation Report

**Table 1-1. Summary of North Shore Gas GPY4-GPY6 IL TRC Results by Program – North Shore Gas Specific w/o Electric Data from Joint Programs**

Total Resource Cost Test (TRC) Results for North Shore Gas, GPY4-GPY6 Programs									
Program	Benefits		Costs			IL Total Resource Cost (TRC) Test			
	Avoided Gas Savings	Other Benefits	Non-Incentive Costs	Incentive Costs	Incremental Costs (Net)	IL TRC Benefits	IL TRC Costs	IL TRC Test Net Benefits	IL TRC Test
(a)	(b)	(c)	(d)	(e)	(f)	(g) = (b+c)	(h) = (d+f)	(i) = (g-h)	(k) = (g/h)
Home Energy Jumpstart	\$686,237	\$1,236,337	\$268,676	\$850,728	\$426,323	\$1,922,574	\$694,999	\$1,227,575	2.77
Home Energy Rebate	\$5,783,748	\$2,548,950	\$1,062,642	\$1,989,220	\$6,593,016	\$8,332,698	\$7,655,658	\$677,039	1.09
Multi-Family	\$320,018	\$443,838	\$643,293	\$199,194	\$146,168	\$763,856	\$789,462	-\$25,606	0.97
Home Energy Reports	\$1,231,127	\$98,704	\$1,114,994	\$545,049	\$545,049	\$1,329,830	\$1,660,043	-\$330,213	0.80
Elementary Energy Ed (EEE)	\$232,468	\$1,173,980	\$130,327	\$13,960	\$11,028	\$1,406,448	\$141,355	\$1,265,093	9.95
EEPS Residential SubTotal	\$8,253,597	\$5,501,808	\$3,219,932	\$3,598,151	\$7,721,585	\$13,755,405	\$10,941,517	\$2,813,888	1.26
Prescriptive	\$870,363	\$160,273	\$458,082	\$359,871	\$184,451	\$1,030,636	\$642,533	\$388,103	1.60
Custom	\$1,229,062	\$405,804	\$462,283	\$451,123	\$656,993	\$1,634,866	\$1,119,275	\$515,591	1.46
Gas Optimization	\$1,090,449	\$275,227	\$492,443	\$646,750	\$852,064	\$1,365,675	\$1,344,507	\$21,168	1.02
Coordinated Retro-Commissioning	\$24,258	\$7,273	\$17,992	\$16,924	\$15,578	\$31,531	\$33,569	-\$2,039	0.94
Coordinated New Construction	\$87,834	\$45,373	\$75,004	\$71,778	\$62,506	\$133,207	\$137,510	-\$4,303	0.97
Small Business	\$518,188	\$165,907	\$568,156	\$178,315	\$183,505	\$684,095	\$751,660	-\$67,565	0.91
EEPS Business (SubTotal)	\$3,820,154	\$1,059,856	\$2,073,959	\$1,724,761	\$1,955,097	\$4,880,010	\$4,029,055	\$850,955	1.21
<b>Sum of EEPS Programs</b>	<b>\$12,073,751</b>	<b>\$6,561,665</b>	<b>\$5,293,891</b>	<b>\$5,322,912</b>	<b>\$9,676,682</b>	<b>\$18,635,416</b>	<b>\$14,970,573</b>	<b>\$3,664,843</b>	<b>1.24</b>
EEPS Portfolio Costs			<b>\$1,568,904</b>			<b>\$0</b>	<b>\$1,568,904</b>	<b>-\$1,568,904</b>	
<b>Aggregate EEPS Portfolio</b>	<b>\$12,073,751</b>	<b>\$6,561,665</b>	<b>\$6,862,794</b>	<b>\$5,322,912</b>	<b>\$9,676,682</b>	<b>\$18,635,416</b>	<b>\$16,539,476</b>	<b>\$2,095,939</b>	<b>1.13</b>
Former DCEO Income Eligible Programs	\$97,374	\$47,762	\$21,451	\$442,448	\$265,121	\$145,136	\$286,572	-\$141,436	0.51
Former DCEO Public Sector Programs	\$138,578	\$81,754	\$96,332	\$83,948	\$202,667	\$220,332	\$298,999	-\$78,667	0.74
<b>Former DCEO Programs (Bridge)</b>	<b>\$235,951</b>	<b>\$129,516</b>	<b>\$117,782</b>	<b>\$526,396</b>	<b>\$467,788</b>	<b>\$365,467</b>	<b>\$585,571</b>	<b>-\$220,103</b>	<b>0.62</b>

Source: Navigant Analysis

## 1.2 Portfolio Impact Evaluation Summary Results

This section summarizes verified numerical results of Navigant’s impact evaluation of the energy efficiency programs offered by North Shore Gas in Gas Plan Years 4 through 6 (GPY4 through GPY6), which ran from June 1, 2014 to December 31, 2017. Verified savings<sup>4</sup> results are used to determine compliance with statutory goals and are provided in this section.

This report does not cover program process evaluation results or recommendations. All recommendations and process evaluation results are provided in reports produced annually. Annual evaluation reports can be found on the Illinois Energy Efficiency Stakeholder Advisory Group website<sup>5</sup>.

Verified energy savings are documented in Table 1-2 through Table 1-5. Detailed tables with verified program savings and costs are provided in Section 3.

**Table 1-2. North Shore Gas Portfolio Year 4 Results – Verified Net Energy Savings**

Program/Path	Verified			
	RR*	Gross (Therms)	NTG†	Net (Therms)‡
Home Energy Jumpstart	100%	70,617	0.96	67,792
Home Energy Rebate	100%	317,262	0.80	253,809
Multi-Family	102%	35,404	0.92	32,550
Home Energy Reports	125%	1,108,565	1.00	1,108,565
Elementary Energy Education	100%	9,577	0.79	7,566
C&I Custom	102%	268,809	0.68	182,790
C&I Prescriptive	100%	193,793	0.58	112,400
Gas Optimization	109%	263,168	1.02	268,432
Small Business	104%	37,973	0.99	37,593
EEPS Portfolio Total		2,305,168		2,071,497

\* Realization Rate (RR) is the ratio of verified gross savings (based on evaluation research findings) to ex ante gross savings (the unverified savings claimed by North Shore Gas). Impacts shown exclude interactive electric effects that reduce natural gas savings.  
 † Net-to-Gross (NTG) is the ratio of verified net savings to verified gross savings. The program-level NTG is based on deemed values which are to be found on the Illinois SAG web site: <http://ilsag.info/net-to-gross-framework.html>.  
 ‡ Verified gross therms times the NTG ratio equals the verified net therms.  
 Source: Navigant research and analysis

<sup>4</sup> All savings shown exclude interactive electric effects that reduce natural gas savings.

<sup>5</sup> <http://www.ilsag.info/evaluation-documents.html>

**Table 1-3. North Shore Gas Portfolio Year 5 Results – Verified Net Energy Savings**

Program/Path	Verified			
	RR	Gross (Therms)	NTG	Net (Therms)
Home Energy Jumpstart	99%	92,143	0.96	88,457
Home Energy Rebate	100%	698,397	0.81	565,701
Multi-Family	100%	30,596	0.95	29,003
Home Energy Reports	101%	992,342	1.00	992,342
Elementary Energy Education	82%	7,875	1.05	8,269
C&I Custom	96%	23,730	0.78	18,509
C&I Prescriptive	100%	246,830	0.63	155,503
Retro-Commissioning	100%	989	1.02	1,009
Small Business	100%	43,868	0.93	40,798
<b>EEPS Portfolio Total</b>		<b>2,136,770</b>		<b>1,899,591</b>

Source: Navigant research and analysis

**Table 1-4. North Shore Gas Portfolio Year 6 Results – Verified Net Energy Savings**

Program/Path	Verified			
	RR	Gross (Therms)	NTG	Net (Therms)
Home Energy Jumpstart	110%	123,297	97%	119,291
Home Energy Rebate	100%	735,339	84%	617,389
Multi-Family	100%	48,181	92%	44,326
Home Energy Reports	116%	262,337	100%	262,337
Elementary Energy Education	139%	74,799	100%	74,799
C&I Custom	107%	107,917	69%	74,463
C&I Prescriptive	100%	27,265	79%	21,539
Gas Optimization	102%	111,403	102%	113,631
Retro-Commissioning	100%	8,455	102%	8,624
C&I New Construction	95%	31,277	67%	20,956
Small Business	153%	121,082	93%	112,604
<b>EEPS Portfolio Total</b>		<b>1,651,352</b>		<b>1,469,959</b>
Public Sector Prescriptive	1.00	20,374	0.46	9,372
Public Sector STEP	0.98	2,333	0.90	2,099
Public Sector New Construction	1.00	40,551	0.65	26,358
Income Eligible IHWAP	0.78	10,020	1.00	10,020
Public Housing Authorities	0.79	13,884	1.00	13,884
<b>Former DCEO Portfolio Total</b>		<b>87,162</b>		<b>61,733</b>

Source: Navigant research and analysis

**Table 1-5. North Shore Gas Portfolio Years 4 through 6 Results – Verified Net Energy Savings**

Portfolio	Verified	
	Gross (Therms)	Net (Therms)
EEPS GPY4	2,305,168	2,071,497
EEPS GPY5	2,136,770	1,899,591
EEPS GPY6	1,651,352	1,469,959
<b>EEPS Portfolio Total</b>	<b>6,093,290</b>	<b>5,441,047</b>
<b>EEPS Compliance Goal</b>	<b>NA</b>	<b>4,990,453</b>
<b>Percent of EEPS Compliance Goal</b>	<b>NA</b>	<b>109%</b>
<b>Former DCEO Portfolio Total</b>	<b>87,162</b>	<b>61,733</b>

*Source: Navigant research and analysis*

## 2. COST EFFECTIVENESS METHODOLOGY

As part of Navigant’s evaluation of North Shore Gas energy efficiency programs for gas program years four through six, we performed cost-effectiveness calculations based upon a combination of assumptions made by North Shore Gas, program tracking data, and other available resources. The focus of this review is on the basis and calculations used to conduct the Illinois TRC test, but the inputs and results for the Utility Cost Test (UCT) are also reported.

The Illinois TRC test is defined in 220 ILCS 5/8-104(b)<sup>6</sup> as follows:

*“Cost-effective” means that the measures satisfy the total resource cost test which, for purposes of this Section, means a standard that is met if, for an investment in energy efficiency, the benefit-cost ratio is greater than one. The benefit-cost ratio is the ratio of the net present value of the total benefits of the measures to the net present value of the total costs as calculated over the lifetime of the measures. The total resource cost test compares the sum of avoided natural gas utility costs, representing the benefits that accrue to the system and the participant in the delivery of those efficiency measures, as well as other quantifiable societal benefits, including avoided electric utility costs, to the sum of all incremental costs of end use measures (including both utility and participant contributions), plus costs to administer, deliver, and evaluate each demand-side measure, to quantify the net savings obtained by substituting demand-side measures for supply resources. In calculating avoided costs, reasonable estimates shall be included for financial costs likely to be imposed by future regulation of emissions of greenhouse gases. The low-income programs described in item (4) of subsection (f) of this Section shall not be required to meet the total resource cost test.*

The Illinois TRC test differs from traditional TRC tests in its requirement to include a reasonable estimate of the financial costs associated with future regulations and legislation on the emissions of greenhouse gases (GHG). Additional benefits included in the calculation are the non-energy benefits with a multiplier applied to the energy avoided costs, and water savings. This difference adds an additional benefit to investments in efficiency programs that are typically included in the Societal Test in other jurisdictions.

The results of the Utility Cost Test (UCT) are also presented. The UCT approaches cost effectiveness from the perspective of the utility. It determines whether the energy supply costs avoided by the utility exceed the overhead and cost outlays that the utility incurred to implement energy efficiency programs. Since the UCT is primarily focused on utility outlays, incentives paid by the utility to either participants or third-party implementers are included in the calculation in place of incremental or participant costs. Additionally, since non-energy benefits accrue to society rather than to the utility implementing energy efficiency programs, these benefits are not included in the UCT formula.

### Incremental Measure Cost Approach

Incremental cost means the difference between the cost of the efficient measure and the cost of the most relevant baseline measure that would have been installed (if any) in the absence of the efficiency program. Installation costs (material and labor) and Operations and Maintenance (O&M) costs shall be included if there is a difference between the efficient measure and the baseline measure. In cases where the efficient measure has a significantly shorter or longer life than the relevant baseline measure, the avoided baseline replacement measure costs should be accounted for in the TRC analysis. The incremental cost input in the TRC analysis is not reduced by the amount of any incentives.

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<sup>6</sup> Public Utilities Act, Illinois Compiled Statutes maintained by the Legislative Reference Bureau, <http://www.ilga.gov/legislation/ilcs/fulltext.asp?DocName=022000050K8-104>.

## Data Assumptions in the Cost Effectiveness Calculations

The data points needed to conduct the Illinois TRC and UCT tests are provided in Table 2-1 below and are divided into generic and program specific categories. The program specific data points are further subdivided into those that are provided by North Shore Gas, those that are a result of Navigant's evaluation activities, and those from multiple sources.

**Table 2-1. Data Points Needed to Conduct the Illinois TRC Test**

Category	Data Point	Source
Generic	• Avoided Natural Gas Costs	North Shore Gas
	• Escalation Rates	
	• Line Losses (Unaccounted-for-Gas Factor)	
	• Weighted Average Cost of Capital	
	• Non-Energy Benefits (NEBs) Adder	
Generic	• Greenhouse Gas (GHG) Adder	Illinois Energy Efficiency Stakeholders Advisory Group Agreement
Program Specific	• Verified Participants / Measure Count	Navigant Final Evaluation Reports <sup>7</sup>
	• Verified Gross and Net Energy Savings	
	• Realization Rate	
	• Net-to-Gross Ratio	
	• Non-Incentive Costs	North Shore Gas
	• Utility Incentive Costs	
	• Incremental Measure Costs	North Shore Gas / Navigant / Illinois TRM <sup>8</sup> / Other
	• Measure Life	
	• Water Gallon Savings and Avoided Costs	

Source: Research by Navigant

The values for the generic data points used in the cost-effectiveness calculations for all programs and the portfolio are summarized below.

- The discount rate of 5.88 percent for the TRC and UCT was based on a weighted average cost of capital provided by North Shore Gas.
- Natural gas avoided costs are based on values provided by NSG.
  - For the years 2014 through 2017, avoided costs were drawn from the NSG GPY4-6 plan, except that Navigant removed the GHG adder. A Non-Energy Benefit factor of 1.075 is included. A line loss factor of 1.0027 and an escalation rate of 4.28 percent were applied.
  - For the years 2018 and beyond, avoided costs were drawn from NSG GPY7-10 planning values. A GHG adder of \$0.13 per therm (\$25/metric ton) agreed to by the Illinois SAG is included starting in 2020 for the TRC analysis. A Non-Energy Benefit factor of 1.075 is included. A line loss factor of 1.0214 and an escalation rate of 1.91 percent were applied.

The following points are noted for the program-specific data points used in the cost-benefit calculations.

<sup>7</sup> Evaluation documents are available at: <http://www.ilsag.info/evaluation-documents.html>

<sup>8</sup> Illinois Statewide Technical Reference Manual (Illinois TRM). Available at: <http://www.ilsag.info/technical-reference-manual.html>

- Water saving benefits from water saving measures rely upon the Illinois TRM to estimate gallons of water saved per device. Water avoided costs for North Shore Gas were estimated using assumptions developed by Nicor Gas through 2017. The escalation rate for water costs is 1.91 percent for NSG, based on the Illinois TRM version 6.0, applied after 2017.
- Energy saving benefits represent natural gas only taken from final evaluation verified results.
- Incentives and non-incentive program costs were provided by North Shore Gas. For some programs, incentive amounts are tracked by program path, while non-incentive costs are tracked and bundled to include multiple paths. This is why some cells are merged in the TRC/UCT tables. We presented results at the path level when possible.
- For incremental measure costs and measure lives, NSG and Navigant relied upon a combination of program tracking data, program invoices (for direct install), the Illinois TRM, NSG planning values, and Navigant estimates. The main area where professional judgement is considered was for the incremental measure costs. We use incremental costs from Illinois TRM for measures where the tracking data measure costs do not clearly provide incremental cost information (i.e., when the tracking data provides installed cost but not incremental costs). In other cases, we use tracking data measure cost as the true indication of project incremental cost. These include cases where the TRM does not provide incremental costs, or cases where tracking data provides more accurate, site-specific incremental costs than those provided in the TRM. The tracking data measure costs are invoice/measure costs supplied by program applicants and provided to the implementation contractor.
- For joint programs, the measure costs are the NSG share of full incremental costs. Incentives and non-incentive costs are the NSG share of costs.
- For all joint and coordinated programs with ComEd, including programs in the EEPS portfolio and former DCEO income qualified and public sector programs, the interactive energy effects (resulting in negative gas savings) and costs due to ComEd's electric saving measures were not included in our analysis. The impact of electric interactive savings effects and costs are analyzed separately and presented in a joint electric-gas TRC memo (provided in Section 4 of this report). Coordinated or joint programs in the EEPS portfolio include:

**Table 2-2. Summary of Coordinated or Jointly Implemented EEPS Programs**

Program	ComEd	Nicor Gas	NSG
Home Energy Assessment / Home Energy Savings / Home Energy Jumpstart	X	X	X
Multi-Family Retrofit	X	X	X
Elementary Energy Education	X	X	X
Residential New Construction	X	X	
C&I Retro-Commissioning	X	X	X
Business New Construction	X	X	X
Strategic Energy Management	X	X	

Source: Navigant analysis

### 3. PROGRAM SPECIFIC DATA

#### 3.1 Program Specific Cost Effectiveness Results Summary

A summary of the components of the cost effectiveness calculations for each program are shown in Table 3-1 for the Illinois TRC calculations and Table 3-2 for the Utility Cost Test calculations. The tables include the value of each benefit and cost component for each program totaled over three years, as well as portfolio level totals for each component. Results for the EEPS portfolio and former DCEO programs are shown separately.

Table 3-1. Summary of Program Level Benefits, Costs and IL TRC Test for GPY4-6

Total Resource Cost Test (TRC) Results for North Shore Gas, GPY4-GPY6 Programs									
Program	Benefits		Costs			IL Total Resource Cost (TRC) Test			
	Avoided Gas Savings	Other Benefits	Non-Incentive Costs	Incentive Costs	Incremental Costs (Net)	IL TRC Benefits	IL TRC Costs	IL TRC Test Net Benefits	IL TRC Test
(a)	(b)	(c)	(d)	(e)	(f)	(g) = (b+c)	(h) = (d+f)	(i) = (g-h)	(k) = (g/h)
Home Energy Jumpstart	\$686,237	\$1,236,337	\$268,676	\$850,728	\$426,323	\$1,922,574	\$694,999	\$1,227,575	2.77
Home Energy Rebate	\$5,783,748	\$2,548,950	\$1,062,642	\$1,989,220	\$6,593,016	\$8,332,698	\$7,655,658	\$677,039	1.09
Multi-Family	\$320,018	\$443,838	\$643,293	\$199,194	\$146,168	\$763,856	\$789,462	-\$25,606	0.97
Home Energy Reports	\$1,231,127	\$98,704	\$1,114,994	\$545,049	\$545,049	\$1,329,830	\$1,660,043	-\$330,213	0.80
Elementary Energy Ed (EEE)	\$232,468	\$1,173,980	\$130,327	\$13,960	\$11,028	\$1,406,448	\$141,355	\$1,265,093	9.95
EEPS Residential SubTotal	\$8,253,597	\$5,501,808	\$3,219,932	\$3,598,151	\$7,721,585	\$13,755,405	\$10,941,517	\$2,813,888	1.26
Prescriptive	\$870,363	\$160,273	\$458,082	\$359,871	\$184,451	\$1,030,636	\$642,533	\$388,103	1.60
Custom	\$1,229,062	\$405,804	\$462,283	\$451,123	\$656,993	\$1,634,866	\$1,119,275	\$515,591	1.46
Gas Optimization	\$1,090,449	\$275,227	\$492,443	\$646,750	\$852,064	\$1,365,675	\$1,344,507	\$21,168	1.02
Coordinated Retro-Commissioning	\$24,258	\$7,273	\$17,992	\$16,924	\$15,578	\$31,531	\$33,569	-\$2,039	0.94
Coordinated New Construction	\$87,834	\$45,373	\$75,004	\$71,778	\$62,506	\$133,207	\$137,510	-\$4,303	0.97
Small Business	\$518,188	\$165,907	\$568,156	\$178,315	\$183,505	\$684,095	\$751,660	-\$67,565	0.91
EEPS Business (SubTotal)	\$3,820,154	\$1,059,856	\$2,073,959	\$1,724,761	\$1,955,097	\$4,880,010	\$4,029,055	\$850,955	1.21
<b>Sum of EEPS Programs</b>	<b>\$12,073,751</b>	<b>\$6,561,665</b>	<b>\$5,293,891</b>	<b>\$5,322,912</b>	<b>\$9,676,682</b>	<b>\$18,635,416</b>	<b>\$14,970,573</b>	<b>\$3,664,843</b>	<b>1.24</b>
EEPS Portfolio Costs			<b>\$1,568,904</b>			<b>\$0</b>	<b>\$1,568,904</b>	<b>-\$1,568,904</b>	
<b>Aggregate EEPS Portfolio</b>	<b>\$12,073,751</b>	<b>\$6,561,665</b>	<b>\$6,862,794</b>	<b>\$5,322,912</b>	<b>\$9,676,682</b>	<b>\$18,635,416</b>	<b>\$16,539,476</b>	<b>\$2,095,939</b>	<b>1.13</b>
Former DCEO Income Eligible Programs	\$97,374	\$47,762	\$21,451	\$442,448	\$265,121	\$145,136	\$286,572	-\$141,436	0.51
Former DCEO Public Sector Programs	\$138,578	\$81,754	\$96,332	\$83,948	\$202,667	\$220,332	\$298,999	-\$78,667	0.74
<b>Former DCEO Programs (Bridge)</b>	<b>\$235,951</b>	<b>\$129,516</b>	<b>\$117,782</b>	<b>\$526,396</b>	<b>\$467,788</b>	<b>\$365,467</b>	<b>\$585,571</b>	<b>-\$220,103</b>	<b>0.62</b>

Source: Navigant Analysis

Table 3-2. Summary of Program Level Benefits, Costs and IL UCT for GPY4-6

Utility Cost Test (UCT) Results for North Shore Gas, GPY4-GPY6 Programs									
Program	Benefits		Costs			Utility Cost Test (UCT)			
	Avoided Gas Savings	Other Benefits	Non-Incentive Costs	Incentive Costs	Incremental Costs (Net)	UCT Benefits	UCT Costs	UCT Test Net Benefits	UCT Test
(a)	(b)	(c)	(d)	(e)	(f)	(g) = (b)	(h) = (d+e)	(i) = (g-h)	(k) = (g/h)
Home Energy Jumpstart	\$686,237		\$268,676	\$850,728	\$426,323	\$ 686,237	\$1,119,404	-\$433,166	0.61
Home Energy Rebate	\$5,783,748		\$1,062,642	\$1,989,220	\$6,592,598	\$ 5,783,748	\$3,051,862	\$2,731,885	1.90
Multi-Family	\$320,018		\$643,293	\$199,194	\$146,168	\$ 320,018	\$842,488	-\$522,470	0.38
Home Energy Reports	\$1,231,127		\$1,114,994	\$545,049	\$545,049	\$ 1,231,127	\$1,660,043	-\$428,916	0.74
Elementary Energy Ed (EEE)	\$232,468		\$130,327	\$13,960	\$11,028	\$ 232,468	\$144,287	\$88,181	1.61
<b>EEPS Residential SubTotal</b>	<b>\$8,253,597</b>		<b>\$3,219,932</b>	<b>\$3,598,151</b>	<b>\$7,721,167</b>	<b>\$8,253,597</b>	<b>\$6,818,083</b>	<b>\$1,435,514</b>	<b>1.21</b>
Prescriptive	\$870,363		\$458,082	\$359,871	\$184,451	\$870,363	\$817,953	\$52,411	1.06
Custom	\$1,229,062		\$462,283	\$451,123	\$656,993	\$1,229,062	\$913,406	\$315,656	1.35
Gas Optimization	\$1,090,449		\$492,443	\$646,750	\$852,064	\$1,090,449	\$1,139,193	-\$48,744	0.96
Coordinated Retro-Commissioning	\$24,258		\$17,992	\$16,924	\$15,578	\$24,258	\$34,915	-\$10,657	0.69
Coordinated New Construction	\$87,834		\$75,004	\$71,778	\$62,506	\$87,834	\$146,782	-\$58,948	0.60
Small Business	\$518,188		\$568,156	\$178,315	\$183,505	\$518,188	\$746,470	-\$228,282	0.69
<b>EEPS Business (SubTotal)</b>	<b>\$3,820,154</b>		<b>\$2,073,959</b>	<b>\$1,724,761</b>	<b>\$1,955,097</b>	<b>\$3,820,154</b>	<b>\$3,798,719</b>	<b>\$21,435</b>	<b>1.01</b>
<b>Sum of EEPS Programs</b>	<b>\$12,073,751</b>		<b>\$5,293,891</b>	<b>\$5,322,912</b>	<b>\$9,676,264</b>	<b>\$12,073,751</b>	<b>\$10,616,802</b>	<b>\$1,456,949</b>	<b>1.14</b>
EEPS Portfolio Costs			<b>\$1,568,904</b>			<b>\$0</b>	<b>\$1,568,904</b>	<b>-\$1,568,904</b>	<b>-</b>
<b>Aggregate EEPS Portfolio</b>	<b>\$12,073,751</b>		<b>\$6,862,794</b>	<b>\$5,322,912</b>	<b>\$9,676,264</b>	<b>\$12,073,751</b>	<b>\$12,185,706</b>	<b>-\$111,955</b>	<b>0.99</b>
Former DCEO Income Eligible Programs	\$97,374		\$21,451	\$442,448	\$321,064	\$97,374	\$463,898	-\$366,524	0.21
Former DCEO Public Sector Programs	\$138,578		\$96,332	\$83,948	\$225,937	\$138,578	\$180,280	-\$41,702	0.77
<b>Former DCEO Programs (Bridge)</b>	<b>\$235,951</b>		<b>\$117,782</b>	<b>\$526,396</b>	<b>\$547,001</b>	<b>\$235,951</b>	<b>\$644,178</b>	<b>-\$408,227</b>	<b>0.37</b>

Source: Navigant Analysis

A summary of the components of the Illinois TRC benefits and costs for each program are shown in Table 3-3 through Table 3-5 for each program year. The tables include the component values for each program, as well as portfolio level totals for each component. Results for the EEPS portfolio and former DCEO programs are shown separately.

**Table 3-3. Summary of Illinois TRC Benefits and Costs for GPY4**

Total Resource Cost Test (TRC) Results for North Shore Gas, GPY4 Programs									
Program	Benefits		Costs			IL Total Resource Cost (TRC) Test			
	Avoided Gas Savings	Other Benefits	Non-Incentive Costs	Incentive Costs	Incremental Costs (Net)	IL TRC Benefits	IL TRC Costs	IL TRC Test Net Benefits	IL TRC Test
(a)	(b)	(c)	(d)	(e)	(f)	(g) = (b+c)	(h) = (d+f)	(i) = (g-h)	(k) = (g/h)
Home Energy Jumpstart	\$196,368	\$429,195	\$47,025	\$146,013	\$140,172	\$625,563	\$2,113,418	-\$17,241	0.99
Home Energy Rebate	\$1,131,431	\$339,182	\$296,684	\$458,246	\$1,629,537	\$1,470,613			
Multi-Family	\$127,599	\$182,313	\$169,096	\$49,558	\$39,477	\$309,912	\$208,573	\$101,339	1.49
Home Energy Reports	\$575,776	\$43,183	\$18,834	\$545,049	\$545,049	\$618,959	\$575,666	\$138,116	1.24
Elementary Energy Ed (EEE)	\$22,058	\$72,765	\$755	\$13,960	\$11,028	\$94,823			
<b>EEPS Residential (SubTotal)</b>	<b>\$2,053,232</b>	<b>\$1,066,639</b>	<b>\$532,394</b>	<b>\$1,212,826</b>	<b>\$2,365,263</b>	<b>\$3,119,871</b>	<b>\$2,897,657</b>	<b>\$222,214</b>	<b>1.08</b>
Prescriptive	\$402,453	\$80,540	\$72,656	\$145,613	\$91,271	\$482,993	\$1,385,897	\$897,623	1.65
Custom	\$869,965	\$250,889	\$163,568	\$213,455	\$420,976	\$1,120,855			
Gas Optimization	\$632,313	\$47,360	\$106,770	\$270,956	\$530,657	\$679,673			
Coordinated Retro-Commissioning	\$0	\$0	\$0	\$0	\$0	\$0			
Coordinated New Construction	\$0	\$0	\$0	\$0	\$0	\$0			
Small Business	\$117,175	\$14,122	\$133,616	\$29,434	\$41,755	\$131,297	\$175,371	-\$44,074	0.75
<b>EEPS Business (SubTotal)</b>	<b>\$2,021,907</b>	<b>\$392,910</b>	<b>\$476,610</b>	<b>\$659,458</b>	<b>\$1,084,659</b>	<b>\$2,414,817</b>	<b>\$1,561,269</b>	<b>\$853,548</b>	<b>1.55</b>
<b>Sum of EEPS Programs</b>	<b>\$4,075,139</b>	<b>\$1,459,550</b>	<b>\$1,009,004</b>	<b>\$1,872,284</b>	<b>\$3,449,922</b>	<b>\$5,534,688</b>	<b>\$4,458,926</b>	<b>\$1,075,762</b>	<b>1.24</b>
EEPS Portfolio Costs			\$310,425				\$310,425	-\$310,425	
<b>Aggregate EEPS Portfolio</b>	<b>\$4,075,139</b>	<b>\$1,459,550</b>	<b>\$1,319,429</b>	<b>\$1,872,284</b>	<b>\$3,449,922</b>	<b>\$5,534,688</b>	<b>\$4,769,351</b>	<b>\$765,337</b>	<b>1.16</b>

Source: Navigant Analysis

Table 3-4. Summary of Illinois TRC Benefits and Costs for GPY5

Total Resource Cost Test (TRC) Results for North Shore Gas, GPY5 Programs									
Program	Benefits		Costs			IL Total Resource Cost (TRC) Test			
	Avoided Gas Savings	Other Benefits	Non-Incentive Costs	Incentive Costs	Incremental Costs (Net)	IL TRC Benefits	IL TRC Costs	IL TRC Test Net Benefits	IL TRC Test
(a)	(b)	(c)	(d)	(e)	(f)	(g) = (b+c)	(h) = (d+f)	(i) = (g-h)	(k) = (g/h)
Home Energy Jumpstart	\$232,367	\$268,500	\$27,957	\$158,255	\$110,659	\$500,867	\$2,296,523	\$2,097,531	1.91
Home Energy Rebate	\$2,753,191	\$1,139,995	\$385,875	\$517,111	\$1,772,031	\$3,893,186			
Multi-Family	\$106,702	\$73,798	\$199,801	\$30,773	\$28,491	\$180,500	\$228,292	-\$47,792	0.79
Home Energy Reports	\$515,411	\$38,656	\$486,988	\$0	\$0	\$554,067	\$508,313	\$221,969	1.44
Elementary Energy Ed (EEE)	\$21,239	\$154,976	\$21,325	\$0	\$0	\$176,215			
<b>EEPS Residential (SubTotal)</b>	<b>\$3,628,910</b>	<b>\$1,675,925</b>	<b>\$1,121,946</b>	<b>\$706,139</b>	<b>\$1,911,182</b>	<b>\$5,304,835</b>	<b>\$3,033,128</b>	<b>\$2,271,707</b>	<b>1.75</b>
Prescriptive	\$430,634	\$72,042	\$359,304	\$189,260	\$71,412	\$502,676	\$555,450	\$58,590	1.11
Custom	\$82,116	\$26,893	\$73,046	\$21,705	\$47,951	\$109,009			
Gas Optimization	\$0	\$0	\$0	\$6,710	\$0	\$0			
Coordinated Retro-Commissioning	\$2,185	\$170	\$1,720	\$1,352	\$2,018	\$2,355			
Coordinated New Construction	\$0	\$0	\$0	\$0	\$0	\$0			
Small Business	\$145,664	\$45,249	\$165,006	\$40,805	\$61,406	\$190,913	\$226,412	-\$35,499	0.84
<b>EEPS Business (SubTotal)</b>	<b>\$660,599</b>	<b>\$144,353</b>	<b>\$599,076</b>	<b>\$259,832</b>	<b>\$182,785</b>	<b>\$804,952</b>	<b>\$781,861</b>	<b>\$23,091</b>	<b>1.03</b>
<b>Sum of EEPS Programs</b>	<b>\$4,289,509</b>	<b>\$1,820,279</b>	<b>\$1,721,022</b>	<b>\$965,971</b>	<b>\$2,093,967</b>	<b>\$6,109,787</b>	<b>\$3,814,989</b>	<b>\$2,294,798</b>	<b>1.60</b>
EEPS Portfolio Costs			\$397,519				\$397,519	-\$397,519	
<b>Aggregate EEPS Portfolio</b>	<b>\$4,289,509</b>	<b>\$1,820,279</b>	<b>\$2,118,541</b>	<b>\$965,971</b>	<b>\$2,093,967</b>	<b>\$6,109,787</b>	<b>\$4,212,508</b>	<b>\$1,897,279</b>	<b>1.45</b>

Source: Navigant Analysis

**Table 3-5. Summary of Illinois TRC Benefits and Costs for GPY6**

<b>Total Resource Cost Test (TRC) Results for North Shore Gas, GPY6 Programs</b>									
Program	Benefits		Costs			IL Total Resource Cost (TRC) Test			
	Avoided Gas Savings	Other Benefits	Non-Incentive Costs	Incentive Costs	Incremental Costs (Net)	IL TRC Benefits	IL TRC Costs	IL TRC Test Net Benefits	IL TRC Test
(a)	(b)	(c)	(d)	(e)	(f)	(g) = (b+c)	(h) = (d+f)	(i) = (g-h)	(k) = (g/h)
Home Energy Jumpstart	\$257,502	\$538,642	\$193,693	\$546,460	\$175,492	\$796,143	\$369,185	\$426,958	2.16
Home Energy Rebate	\$1,899,126	\$1,069,772	\$380,083	\$1,013,863	\$3,191,448	\$2,968,898	\$3,571,532	-\$602,634	0.83
Multi-Family	\$85,717	\$187,727	\$274,396	\$118,863	\$78,200	\$273,444	\$352,597	-\$79,153	0.78
Home Energy Reports	\$139,939	\$16,864	\$609,172	\$0	\$0	\$156,804	\$609,172	-\$452,368	0.26
Elementary Energy Ed (EEE)	\$189,171	\$946,238	\$108,247	\$0	\$0	\$1,135,410	\$108,247	\$1,027,163	10.49
<b>EEPS Residential SubTotal</b>	<b>\$2,571,455</b>	<b>\$2,759,244</b>	<b>\$1,565,592</b>	<b>\$1,679,186</b>	<b>\$3,445,140</b>	<b>\$5,330,699</b>	<b>\$5,010,732</b>	<b>\$319,967</b>	<b>1.06</b>
Prescriptive	\$37,276	\$7,691	\$26,122	\$24,998	\$21,769	\$44,967	\$47,891	-\$2,923	0.94
Custom	\$276,981	\$128,022	\$225,669	\$215,963	\$188,066	\$405,003	\$413,735	-\$8,732	0.98
Gas Optimization	\$458,136	\$227,867	\$385,673	\$369,084	\$321,408	\$686,003	\$707,081	-\$21,078	0.97
Coordinated Retro-Commissioning	\$22,073	\$7,103	\$16,271	\$15,572	\$13,560	\$29,176	\$29,831	-\$656	0.98
Coordinated New Construction	\$87,834	\$45,373	\$75,004	\$71,778	\$62,506	\$133,207	\$137,510	-\$4,303	0.97
Small Business	\$255,349	\$106,537	\$269,534	\$108,076	\$80,344	\$361,886	\$349,878	\$12,008	1.03
<b>EEPS Business (SubTotal)</b>	<b>\$1,137,649</b>	<b>\$522,592</b>	<b>\$998,273</b>	<b>\$805,471</b>	<b>\$687,653</b>	<b>\$1,660,241</b>	<b>\$1,685,926</b>	<b>-\$25,684</b>	<b>0.98</b>
<b>Sum of EEPS Programs</b>	<b>\$3,709,104</b>	<b>\$3,281,836</b>	<b>\$2,563,865</b>	<b>\$2,484,657</b>	<b>\$4,132,793</b>	<b>\$6,990,940</b>	<b>\$6,696,658</b>	<b>\$294,282</b>	<b>1.04</b>
EEPS Portfolio Costs			<b>\$860,960</b>			<b>\$0</b>	<b>\$860,960</b>	<b>-\$860,960</b>	
<b>Aggregate EEPS Portfolio</b>	<b>\$3,709,104</b>	<b>\$3,281,836</b>	<b>\$3,424,824</b>	<b>\$2,484,657</b>	<b>\$4,132,793</b>	<b>\$6,990,940</b>	<b>\$7,557,617</b>	<b>-\$566,677</b>	<b>0.93</b>
Former DCEO Income Eligible Programs	\$97,374	\$47,762	\$21,451	\$442,448	\$265,121	\$145,136	\$286,572	-\$141,436	0.51
Former DCEO Public Sector Programs	\$138,578	\$81,754	\$96,332	\$83,948	\$202,667	\$220,332	\$298,999	-\$78,667	0.74
<b>Former DCEO Programs (Bridge)</b>	<b>\$235,951</b>	<b>\$129,516</b>	<b>\$117,782</b>	<b>\$526,396</b>	<b>\$467,788</b>	<b>\$365,467</b>	<b>\$585,571</b>	<b>-\$220,103</b>	<b>0.62</b>

Source: Navigant Analysis

A summary of the components of the UCT benefits and costs for each program are shown in Table 3-6 through Table 3-8 for each program year. The tables include the component values for each program, as well as portfolio level totals for each component. Results for the EEPS portfolio and former DCEO programs are shown separately.

Table 3-6. Summary of UCT Benefits and Costs for GPY4

Utility Cost Test (UCT) Results for North Shore Gas, GPY4 Programs									
Program	Benefits		Costs			Utility Cost Test (UCT)			
	Avoided Gas Savings	Other Benefits	Non-Incentive Costs	Incentive Costs	Incremental Costs (Net)	UCT Benefits	UCT Costs	UCT Test Net Benefits	UCT Test
(a)	(b)	(c)	(d)	(e)	(f)	(g) = (b)	(h) = (d+e)	(i) = (g-h)	(k) = (g/h)
Home Energy Jumpstart	\$196,368		\$47,025	\$146,013	\$140,172	\$196,368	\$947,968	\$379,831	1.40
Home Energy Rebate	\$1,131,431		\$296,684	\$458,246	\$1,629,537	\$1,131,431			
Multi-Family	\$127,599		\$169,096	\$49,558	\$39,477	\$127,599	\$218,654	-\$91,055	0.58
Home Energy Reports	\$575,776		\$18,834	\$545,049	\$545,049	\$575,776	\$578,598	\$19,236	1.03
Elementary Energy Ed (EEE)	\$22,058		\$755	\$13,960	\$11,028	\$22,058			
EEPS Residential (SubTotal)	\$2,053,232		\$532,394	\$1,212,826	\$2,365,263	\$2,053,232	\$1,745,220	\$308,012	1.18
Prescriptive	\$402,453		\$72,656	\$145,613	\$91,271	\$402,453	\$973,018	\$931,713	1.96
Custom	\$869,965		\$163,568	\$213,455	\$420,976	\$869,965			
Gas Optimization	\$632,313		\$106,770	\$270,956	\$530,657	\$632,313			
Coordinated Retro-Commissioning	\$0		\$0	\$0	\$0	\$0			
Coordinated New Construction	\$0		\$0	\$0	\$0	\$0			
Small Business	\$117,175		\$133,616	\$29,434	\$41,755	\$117,175	\$163,050	-\$45,875	0.72
EEPS Business (SubTotal)	\$2,021,907		\$476,610	\$659,458	\$1,084,659	\$2,021,907	\$1,136,068	\$885,839	1.78
<b>Sum of EEPS Programs</b>	<b>\$4,075,139</b>		<b>\$1,009,004</b>	<b>\$1,872,284</b>	<b>\$3,449,922</b>	<b>\$4,075,139</b>	<b>\$2,881,288</b>	<b>\$1,193,851</b>	<b>1.41</b>
EEPS Portfolio Costs			\$310,425			\$0	\$310,425	-\$310,425	
<b>Aggregate EEPS Portfolio</b>	<b>\$4,075,139</b>		<b>\$1,319,429</b>	<b>\$1,872,284</b>	<b>\$3,449,922</b>	<b>\$4,075,139</b>	<b>\$3,191,713</b>	<b>\$883,426</b>	<b>1.28</b>

Source: Navigant Analysis

Table 3-7. Summary of UCT Benefits and Costs for GPY5

Utility Cost Test (UCT) Results for North Shore Gas, GPY5 Programs									
Program	Benefits		Costs			Utility Cost Test (UCT)			
	Avoided Gas Savings	Other Benefits	Non-Incentive Costs	Incentive Costs	Incremental Costs (Net)	UCT Benefits	UCT Costs	UCT Test Net Benefits	UCT Test
(a)	(b)	(c)	(d)	(e)	(f)	(g) = (b)	(h) = (d+e)	(i) = (g-h)	(k) = (g/h)
Home Energy Jumpstart	\$232,367		\$27,957	\$158,255	\$110,659	\$232,367	\$1,089,198	\$1,896,360	2.74
Home Energy Rebate	\$2,753,191		\$385,875	\$517,111	\$1,772,031	\$2,753,191			
Multi-Family	\$106,702		\$199,801	\$30,773	\$28,491	\$106,702	\$230,574	-\$123,872	0.46
Home Energy Reports	\$515,411		\$486,988	\$0	\$0	\$515,411	\$508,313	\$28,337	1.06
Elementary Energy Ed (EEE)	\$21,239		\$21,325	\$0	\$0	\$21,239			
<b>EEPS Residential (SubTotal)</b>	<b>\$3,628,910</b>		<b>\$1,121,946</b>	<b>\$706,139</b>	<b>\$1,911,182</b>	<b>\$3,628,910</b>	<b>\$1,828,085</b>	<b>\$1,800,825</b>	<b>1.99</b>
Prescriptive	\$430,634		\$359,304	\$189,260	\$71,412	\$430,634	\$653,097	-\$138,162	0.79
Custom	\$82,116		\$73,046	\$21,705	\$47,951	\$82,116			
Gas Optimization	\$0		\$0	\$6,710	\$0	\$0			
Coordinated Retro-Commissioning	\$2,185		\$1,720	\$1,352	\$2,018	\$2,185			
Coordinated New Construction	\$0		\$0	\$0	\$0	\$0			
Small Business	\$145,664		\$165,006	\$40,805	\$61,406	\$145,664	\$205,811	-\$60,147	0.71
<b>EEPS Business (SubTotal)</b>	<b>\$660,599</b>		<b>\$599,076</b>	<b>\$259,832</b>	<b>\$182,785</b>	<b>\$660,599</b>	<b>\$858,908</b>	<b>-\$198,309</b>	<b>0.77</b>
<b>Sum of EEPS Programs</b>	<b>\$4,289,509</b>		<b>\$1,721,022</b>	<b>\$965,971</b>	<b>\$2,093,967</b>	<b>\$4,289,509</b>	<b>\$2,686,993</b>	<b>\$1,602,516</b>	<b>1.60</b>
EEPS Portfolio Costs			<b>\$397,519</b>			<b>\$0</b>	<b>\$397,519</b>	<b>-\$397,519</b>	
<b>Aggregate EEPS Portfolio</b>	<b>\$4,289,509</b>		<b>\$2,118,541</b>	<b>\$965,971</b>	<b>\$2,093,967</b>	<b>\$4,289,509</b>	<b>\$3,084,512</b>	<b>\$1,204,997</b>	<b>1.39</b>

Source: Navigant Analysis

Table 3-8. Summary of UCT Benefits and Costs for GPY6

Utility Cost Test (UCT) Results for North Shore Gas, GPY6 Programs									
Program	Benefits		Costs			Utility Cost Test (UCT)			
	Avoided Gas Savings	Other Benefits	Non-Incentive Costs	Incentive Costs	Incremental Costs (Net)	UCT Benefits	UCT Costs	UCT Test Net Benefits	UCT Test
(a)	(b)	(c)	(d)	(e)	(f)	(g) = (b)	(h) = (d+e)	(i) = (g-h)	(k) = (g/h)
Home Energy Jumpstart	\$257,502		\$193,693	\$546,460	\$175,492	\$257,502	\$740,153	-\$482,652	0.35
Home Energy Rebate	\$1,899,126		\$380,083	\$1,013,863	\$3,191,030	\$1,899,126	\$1,393,946	\$505,180	1.36
Multi-Family	\$85,717		\$274,396	\$118,863	\$78,200	\$85,717	\$393,260	-\$307,543	0.22
Home Energy Reports	\$139,939		\$609,172	\$0	\$0	\$139,939	\$609,172	-\$469,232	0.23
Elementary Energy Ed (EEE)	\$189,171		\$108,247	\$0	\$0	\$189,171	\$108,247	\$80,925	1.75
EEPS Residential SubTotal	\$2,571,455		\$1,565,592	\$1,679,186	\$3,444,722	\$2,571,455	\$3,244,778	-\$673,323	0.79
Prescriptive	\$37,276		\$26,122	\$24,998	\$21,769	\$37,276	\$51,120	-\$13,844	0.73
Custom	\$276,981		\$225,669	\$215,963	\$188,066	\$276,981	\$441,632	-\$164,651	0.63
Gas Optimization	\$458,136		\$385,673	\$369,084	\$321,408	\$458,136	\$754,757	-\$296,621	0.61
Coordinated Retro-Commissioning	\$22,073		\$16,271	\$15,572	\$13,560	\$22,073	\$31,843	-\$9,770	0.69
Coordinated New Construction	\$87,834		\$75,004	\$71,778	\$62,506	\$87,834	\$146,782	-\$58,948	0.60
Small Business	\$255,349		\$269,534	\$108,076	\$80,344	\$255,349	\$377,609	-\$122,260	0.68
EEPS Business (SubTotal)	\$1,137,649		\$998,273	\$805,471	\$687,653	\$1,137,649	\$1,803,743	-\$666,095	0.63
<b>Sum of EEPS Programs</b>	<b>\$3,709,104</b>		<b>\$2,563,865</b>	<b>\$2,484,657</b>	<b>\$4,132,375</b>	<b>\$3,709,104</b>	<b>\$5,048,521</b>	<b>-\$1,339,418</b>	<b>0.73</b>
EEPS Portfolio Costs			<b>\$860,960</b>				<b>\$860,960</b>	<b>-\$860,960</b>	
<b>Aggregate EEPS Portfolio</b>	<b>\$3,709,104</b>		<b>\$3,424,824</b>	<b>\$2,484,657</b>	<b>\$4,132,375</b>	<b>\$3,709,104</b>	<b>\$5,909,481</b>	<b>-\$2,200,377</b>	<b>0.63</b>
Former DCEO Income Eligible Programs	\$97,374		\$21,451	\$442,448	\$321,064	\$97,374	\$463,898	-\$366,524	0.21
Former DCEO Public Sector Programs	\$138,578		\$96,332	\$83,948	\$225,937	\$138,578	\$180,280	-\$41,702	0.77
<b>Former DCEO Programs</b>	<b>\$235,951</b>		<b>\$117,782</b>	<b>\$526,396</b>	<b>\$547,001</b>	<b>\$235,951</b>	<b>\$644,178</b>	<b>-\$408,227</b>	<b>0.37</b>

Source: Navigant Analysis

### 3.2 Program Specific Verified Savings and Costs Summary

A summary of the components of the verified savings and costs for each program are shown in Table 3-9 through Table 3-13 for each program year. The tables include the component values for each program, as well as portfolio level totals for each component. Results for the EEPS portfolio and former DCEO programs are shown separately.

**Table 3-9. Summary of Verified Savings and Program Costs for GPY4 EEPS**

North Shore Gas GPY4 EEPS Ex Post Summary												
	Realization Rate	Verified Gross		Deemed / Used	Verified Net				Actual Costs	Participation		Weighted Average Measure Life
	Energy Savings (Verified Gross / Ex Ante Gross)	First Year Annual Energy Savings	Lifetime Savings	Net-to-Gross Ratio	First Year Annual Savings	Lifetime Savings	First Year Cost per First Year Annual Savings	First Year Cost per Lifetime Savings	Utility Program Costs	# Units	Units Definition	Years
	%	Therms	Therms	%	Therms	Therms	\$/Therms	\$/Therms	\$			
<b>EEPS Residential Programs</b>												
Home Energy Jumpstart	100%	70,617	517,727	96%	67,792	497,016						
Home Energy Rebate	100%	317,262	6,221,123	80%	253,809	4,976,887	\$2.948	\$0.173	\$947,968	1,238	Participants	7.3
MF Jumpstart DI	100%	600	6,179	90%	540	5,561				1,392	Projects / Units	19.6
MF Prescriptive Incentives	100%	27,164	407,460	90%	24,447	366,705				126	Participants	10.3
MF Partner Trade Ally	108%	7,640	107,782	99%	7,563	106,696				1	Participants	15.0
MF Custom		-	-		-	-				14	Participants	14.1
MF New Construction		-	-		-	-				-	Projects	
MF Gas Optimization		-	-		-	-				-	Projects	
Home Energy Reports	125%	1,108,565	1,108,565	100%	1,108,565	1,108,565						
Elementary Energy Education	100%	9,577	72,107	79%	7,566	56,966	\$0.518	\$0.496	\$578,598	91,350	Participants	1.0
<b>Total EEPS Residential</b>		1,541,425	8,440,944	95%	1,470,282	7,118,396	\$1.19	\$0.25	\$1,745,220	770	Kits Distributed	7.5
<b>EEPS Business Programs</b>												
C&I Jumpstart DI		-	-		-	-						
C&I Prescriptive Rebate	100%	193,793	1,926,514	58%	112,400	1,117,379						
C&I NC Prescriptive		-	-		-	-						
C&I Custom Rebate	102%	268,809	4,032,135	68%	182,790	2,741,850						
C&I Custom New Construction		-	-		-	-						
C&I Coordinated New Construction		-	-		-	-						
C&I Gas Optimization	109%	263,168	1,315,840	102%	268,432	1,342,160						
C&I Retro-Commissioning		-	-		-	-						
Small Business DI	125%	1,029	8,814	99%	1,018	8,720						
Small Business Incentives	101%	36,944	296,990	99%	36,575	294,023						
Small Business Custom		-	-		-	-						
Small Business New Construction		-	-		-	-						
<b>Total EEPS Business</b>		763,743	7,580,292	79%	601,215	5,504,132	\$1.89	\$0.21	\$1,136,068	9	Projects/Participants	9.9
<b>Other EEPS Portfolio Costs</b>									\$310,425			
<b>EEPS Portfolio Total</b>		2,305,168	16,021,237	90%	2,071,497	12,622,528	\$1.54	\$0.25	\$3,191,713			7.0

Source: Navigant Analysis

**Table 3-10. Summary of Verified Savings and Program Costs for GPY5 EEPS**

North Shore Gas GPY5 EEPS Ex Post Summary												
	Realization Rate	Verified Gross		Deemed / Used	Verified Net				Actual Costs	Participation		Weighted Average Measure Life
	Energy Savings (Verified Gross / Ex Ante Gross)	First Year Annual Energy Savings	Lifetime Savings	Net-to-Gross Ratio	First Year Annual Savings	Lifetime Savings	First Year Cost per First Year Annual Savings	First Year Cost per Lifetime Savings	Utility Program Costs	# Units	Units Definition	Years
	%	Therms	Therms	%	Therms	Therms	\$/Therms	\$/Therms	\$			
<b>EEPS Residential Programs</b>												
Home Energy Jumpstart	99%	92,143	636,363	96%	88,457	610,907			\$1,089,199	1,402	Participants	6.9
Home Energy Rebate	100%	698,397	13,658,009	81%	565,701	11,062,976	\$1.665	\$0.093		2,538	Projects / Units	19.6
MF Jumpstart DI	100%	12,211	112,843	92%	11,234	103,815				120	Participants	9.2
MF Prescriptive Incentives	100%	1,071	3,213	92%	986	2,958				1	Participants	3.0
MF Partner Trade Ally	100%	15,608	312,160	99%	15,452	309,040				7	Participants	20.0
MF Custom	100%	1,706	25,590	78%	1,331	19,965	\$7.950	\$0.529	\$230,574	1	Projects	15.0
MF New Construction		-	-		-	-				-	Projects	
MF Gas Optimization		-	-		-	-				-	Projects	
Home Energy Reports	101%	992,342	992,342	100%	992,342	992,342	\$0.508	\$0.484	\$508,312	101,875	Participants	1.0
Elementary Energy Education	82%	7,875	55,219	105%	8,269	57,982				874	Kits Distributed	7.0
<b>Total EEPS Residential</b>		<b>1,821,353</b>	<b>15,795,739</b>	<b>92%</b>	<b>1,683,772</b>	<b>13,159,984</b>	<b>\$1.09</b>	<b>\$0.14</b>	<b>\$1,828,086</b>			<b>8.7</b>
<b>EEPS Business Programs</b>												
C&I Jumpstart DI		-	-		-	-				-	Projects/Participants	
C&I Prescriptive Rebate	100%	246,830	1,914,054	63%	155,503	1,205,855				9	Projects/Participants	7.8
C&I NC Prescriptive		-	-		-	-				-	Projects/Participants	
C&I Custom Rebate	96%	23,730	355,950	78%	18,509	277,635				2	Projects/Participants	15.0
C&I Custom New Construction		-	-		-	-				-	Projects/Participants	
C&I Coordinated New Construction		-	-		-	-				-	Projects/Participants	
C&I Gas Optimization		-	-		-	-				-	Projects/Participants	
C&I Retro-Commissioning	100%	989	4,945	102%	1,009	5,045				1	Projects/Participants	5.0
Small Business DI	100%	942	6,464	93%	876	6,011				10	Projects/Participants	6.9
Small Business Incentives	100%	31,892	310,558	93%	29,660	288,823				23	Projects/Participants	9.7
Small Business Custom	100%	11,034	165,510	93%	10,262	153,930	\$5.045	\$0.459	\$205,810	5	Projects/Participants	15.0
Small Business New Construction		-	-		-	-				-	Projects/Participants	
<b>Total EEPS Business</b>		<b>315,417</b>	<b>2,757,480</b>	<b>68%</b>	<b>215,819</b>	<b>1,937,299</b>	<b>\$3.98</b>	<b>\$0.44</b>	<b>\$858,907</b>			<b>8.7</b>
<b>Other EEPS Portfolio Costs</b>												
<b>EEPS Portfolio Total</b>		<b>2,136,770</b>	<b>18,553,219</b>	<b>89%</b>	<b>1,899,591</b>	<b>15,097,282</b>	<b>\$1.62</b>	<b>\$0.20</b>	<b>\$3,084,512</b>			<b>8.7</b>

Source: Navigant Analysis

**Table 3-11. Summary of Verified Savings and Program Costs for GPY6 EEPS**

North Shore Gas GPY6 EEPS Ex Post Summary												
	Realization Rate	Verified Gross		Deemed / Used	Verified Net				Actual Costs	Participation		Weighted Average Measure Life
	Energy Savings (Verified Gross / Ex Ante Gross)	First Year Annual Energy Savings	Lifetime Savings	Net-to-Gross Ratio	First Year Annual Savings	Lifetime Savings	First Year Cost per First Year Annual Savings	First Year Cost per Lifetime Savings	Utility Program Costs	# Units	Units Definition	Years
	%	Therms	Therms	%	Therms	Therms	\$/Therms	\$/Therms	\$			
<b>EEPS Residential Programs</b>												
Home Energy Jumpstart	110%	123,297	917,330	97%	119,291	887,525	\$6.205	\$0.834	\$740,153	2,507	Participants	7.4
Home Energy Rebate	100%	735,339	13,390,523	84%	617,389	11,242,654	\$2.258	\$0.124	\$1,393,946	4,229	Projects / Units	18.2
MF Jumpstart DI	100%	42,175	253,050	92%	38,801	232,806	\$8.872	\$1.374	\$393,260	38	Participants	6.0
MF Prescriptive Incentives	100%	1,960	18,973	92%	1,803	17,453				1	Participants	9.7
MF Partner Trade Ally	101%	4,046	39,165	92%	3,722	36,029				6	Participants	9.7
MF Custom		-	-		-	-				-	Projects	
MF New Construction		-	-		-	-				-	Projects	
MF Gas Optimization		-	-		-	-				-	Projects	
Home Energy Reports	116%	262,337	262,337	100%	262,337	262,337	\$2.322	\$2.322	\$609,172	30,787	Participants (avg.)	1.0
Elementary Energy Education	139%	74,799	673,939	100%	74,799	673,939	\$1.447	\$0.161	\$108,247	5,879	Kits Distributed	9.0
<b>Total EEPS Residential</b>		<b>1,243,953</b>	<b>15,555,317</b>	<b>90%</b>	<b>1,118,142</b>	<b>13,352,743</b>	<b>\$2.90</b>	<b>\$0.24</b>	<b>\$3,244,778</b>			<b>12.5</b>
<b>EEPS Business Programs</b>												
C&I Jumpstart DI		-	-		-	-	\$5.962	\$0.355	\$1,426,134	-	Projects/Participants	
C&I Prescriptive Rebate	100%	27,265	145,050	79%	21,539	114,587				2	Projects/Participants	5.3
C&I NC Prescriptive		-	-		-	-				-	Projects/Participants	
C&I Custom Rebate	113%	79,079	1,277,917	69%	54,565	881,770				6	Projects/Participants	16.2
C&I Custom New Construction	94%	28,838	576,760	69%	19,898	397,960				1	Projects/Participants	20.0
C&I Coordinated New Construction	95%	31,277	625,540	67%	20,956	419,120				3	Projects/Participants	20.0
C&I Gas Optimization	102%	111,403	2,083,236	102%	113,631	2,124,900	2	Projects/Participants	18.7			
C&I Retro-Commissioning	100%	8,455	76,095	102%	8,624	77,616	2	Projects/Participants	9.0			
Small Business DI	100%	3,058	22,293	93%	2,844	20,733	\$3.353	\$0.418	\$377,609	13	Projects/Participants	7.3
Small Business Incentives	168%	107,030	827,342	93%	99,536	769,413				76	Projects/Participants	7.7
Small Business Custom	89%	10,994	120,934	93%	10,224	112,464				4	Projects/Participants	11.0
Small Business New Construction		-	-		-	-				-	Projects/Participants	
<b>Total EEPS Business</b>		<b>407,399</b>	<b>5,755,166</b>	<b>86%</b>	<b>351,817</b>	<b>4,918,564</b>	<b>\$5.13</b>	<b>\$0.37</b>	<b>\$1,803,743</b>			<b>14.1</b>
<b>Other EEPS Portfolio Costs</b>									<b>\$860,960</b>			
<b>EEPS Portfolio Total</b>		<b>1,651,352</b>	<b>21,310,483</b>	<b>89%</b>	<b>1,469,959</b>	<b>18,271,306</b>	<b>\$4.02</b>	<b>\$0.32</b>	<b>\$5,909,481</b>			<b>12.9</b>

Source: Navigant Analysis

**Table 3-12. Summary of Verified Savings and Program Costs for GPY4 - GPY6 EEPS**

North Shore Gas GPY4-6 EEPS Ex Post Summary												
	Realization Rate	Verified Gross		Deemed / Used	Verified Net				Actual Costs	Participation		Weighted Average Measure Life
	Energy Savings (Verified Gross / Ex Ante Gross)	First Year Annual Energy Savings	Lifetime Savings	Net-to-Gross Ratio	First Year Annual Savings	Lifetime Savings	First Year Cost per First Year Annual Savings	First Year Cost per Lifetime Savings	Utility Program Costs	# Units	Units Definition	Years
	%	Therms	Therms	%	Therms	Therms	\$/Therms	\$/Therms	\$			
<b>EEPS Residential Programs</b>												
Home Energy Jumpstart	104%	286,057	2,071,420	96%	275,540	1,995,448	\$2.436	\$0.142	\$4,171,267	5,147	Participants	7.2
Home Energy Rebate	100%	1,750,998	33,269,655	82%	1,436,899	27,282,516				8,159	Projects / Units	19.0
MF Jumpstart DI	100%	54,986	372,073	92%	50,575	342,182				284	Participants	6.8
MF Prescriptive Incentives	100%	30,195	429,646	90%	27,236	387,116				3	Participants	14.2
MF Partner Trade Ally	102%	27,294	459,108	98%	26,737	451,765	\$7.957	\$0.701		27	Participants	16.8
MF Custom	100%	1,706	25,590	78%	1,331	19,965				1	Projects	15.0
MF New Construction		-	-		-	-				-	Projects	
MF Gas Optimization		-	-		-	-				-	Projects	
Home Energy Reports	113%	2,363,244	2,363,244	100%	2,363,244	2,363,244	\$0.735	\$0.572		74,671	Participants (avg.)	1.0
Elementary Energy Education	126%	92,251	801,265	98%	90,634	788,886				7,523	Kits Distributed	8.7
<b>Total EEPS Residential</b>	<b>107%</b>	<b>4,606,731</b>	<b>39,792,000</b>	<b>93%</b>	<b>4,272,196</b>	<b>33,631,122</b>	<b>\$1.60</b>	<b>\$0.20</b>	<b>\$6,818,083</b>			<b>8.6</b>
<b>EEPS Business Programs</b>												
C&I Jumpstart DI		-	-		-	-			\$3,052,249	-	Projects/Participants	
C&I Prescriptive Rebate	100%	467,888	3,985,617	62%	289,442	2,437,821				15	Projects/Participants	8.5
C&I NC Prescriptive		-	-		-	-				-	Projects/Participants	
C&I Custom Rebate	104%	371,618	5,666,002	69%	255,864	3,901,255	\$3.121	\$0.285		17	Projects/Participants	15.2
C&I Custom New Construction	94%	28,838	576,760	69%	19,898	397,960				1	Projects/Participants	20.0
C&I Coordinated New Construction	95%	31,277	625,540	67%	20,956	419,120				3	Projects/Participants	20.0
C&I Gas Optimization	107%	374,571	3,399,076	102%	382,063	3,467,060				7	Projects/Participants	9.1
C&I Retro-Commissioning	100%	9,444	81,040	102%	9,633	82,661				3	Projects/Participants	8.6
Small Business DI	104%	5,029	37,571	94%	4,738	35,464				37	Projects/Participants	7.5
Small Business Incentives	133%	175,866	1,434,889	94%	165,771	1,352,259	\$3.908	\$0.451		126	Projects/Participants	8.2
Small Business Custom	94%	22,028	286,444	93%	20,486	266,394			9	Projects/Participants	13.0	
Small Business New Construction		-	-		-	-			-	Projects/Participants		
<b>Total EEPS Business</b>	<b>105%</b>	<b>1,486,559</b>	<b>16,092,939</b>	<b>79%</b>	<b>1,168,851</b>	<b>12,359,994</b>	<b>\$3.25</b>	<b>\$0.31</b>	<b>\$3,798,718</b>			<b>10.8</b>
<b>Other EEPS Portfolio Costs</b>									<b>\$1,568,904</b>			
<b>EEPS Portfolio Total</b>	<b>107%</b>	<b>6,093,290</b>	<b>55,884,939</b>	<b>89%</b>	<b>5,441,047</b>	<b>45,991,116</b>	<b>\$2.24</b>	<b>\$0.26</b>	<b>\$12,185,706</b>			<b>9.2</b>

Source: Navigant Analysis

Table 3-13. Summary of Verified Savings and Program Costs for GPY6 Bridge Period Former DCEO

North Shore Gas GPY6 Bridge Period Ex Post Summary Former DCEO Programs												
	Realization Rate	Verified Gross		Deemed / Used	Verified Net				Actual Costs	Participation		Weighted Average Measure Life
	Energy Savings (Verified Gross / Ex Ante Gross)	First Year Annual Energy Savings	Lifetime Savings	Net-to-Gross Ratio	First Year Annual Savings	Lifetime Savings	First Year Cost per First Year Annual Savings	First Year Cost per Lifetime Savings	Utility Program Costs	# Units	Units Definition	Years
	%	Therms	Therms	%	Therms	Therms	\$/Therms	\$/Therms	\$			
<b>Former DCEO Programs</b>												
Income Eligible - IHWAP	78%	10,020	196,392	100%	10,020	196,392				23	Projects	19.6
Income Eligible - SF	-	-	-		-	-						
Income Eligible - MF	-	-	-		-	-						
Income Eligible - PHA	79%	13,884	263,796	100%	13,884	263,796				1	Projects	19.0
Public Sector - Prescriptive	100%	20,374	279,124	46%	9,372	128,396				3	Projects	13.7
Public Sector - STEP	98%	2,333	21,464	90%	2,099	19,311				12	Projects	9.2
Public Sector - Custom	-	-	-		-	-						
Public Sector - New Construction	100%	40,551	705,587	65%	26,358	458,629				2	Projects	17.4
Public Sector - Retro-Commissioning	-	-	-		-	-						
<b>Former DCEO Portfolio Total</b>	<b>93%</b>	<b>87,162</b>	<b>1,466,363</b>	<b>71%</b>	<b>61,733</b>	<b>1,066,524</b>	<b>\$10.43</b>	<b>\$0.60</b>	<b>\$644,178</b>	<b>41</b>		<b>16.8</b>

Source: Navigant Analysis

#### 4. JOINT PROGRAM COST EFFECTIVENESS SUMMARY

Seven of the energy efficiency programs implemented by ComEd, Nicor Gas, Peoples Gas (PGL), and North Shore Gas (NSG) in the triennial PY7-9/GPY4-6 are “joint” programs such that they are designed and operated jointly by ComEd and one or more of the gas utilities for customers who are served both by ComEd (electric service) and Nicor Gas, Peoples Gas, or North Shore Gas (gas service). The intent of the joint programs is to gain efficiencies in the marketing and operations of the programs. Navigant’s analysis<sup>9</sup> shows that each of joint programs, except the Home Energy Assessment/Home Energy Savings/Home Energy Jumpstart (HEA/HES/HEJ) Program, were cost-effective based on both the Illinois Total Resource Cost (IL TRC) test and the Utility Cost Test (UCT). Table 4-1 lists the seven programs jointly implemented by ComEd and the gas utilities and indicates which utilities jointly implemented the programs across the 3-year triennial period. Note that the Strategic Energy Management (SEM) Program was not a joint program in EPY7/GPY4).

**Table 4-1. Summary of Jointly Implemented Programs**

Program	ComEd	Nicor Gas	PGL/NSG
Home Energy Assessment / Home Energy Savings / Home Energy Jumpstart	X	X	X
Multi-Family Retrofit	X	X	X
Elementary Energy Education	X	X	X
Residential New Construction	X	X	
C&I Retro-Commissioning	X	X	X
Business New Construction	X	X	X
SEM	X	X	

Source: Navigant analysis

Cost and benefit numbers for each of the joint programs are updated to ensure that there are no instances of double counting while calculating the joint TRC and UCT values. This is one of the main reasons for the joint benefit/cost numbers not always being equal to the sum of the benefit/cost numbers filed separately for each participating utility. Incremental costs for measures that generate both gas and electric savings, such as thermostats and envelope measures, are prone to double counting, especially when based on deemed TRM values. Though double counting is most common for incremental measures, it is also possible for other TRC and UCT calculation components, including estimated avoided costs, interactive effects, and implementation costs.

A summary of the TRC and UCT calculations for each joint program is shown in Table 4-2 and Table 4-3 respectively. The tables include values of each benefit and cost component for each program, when aggregated across all utilities that were involved in its joint implementation.

The IL TRC values range from 0.85 for the HEA Program to 7.57 for the Elementary Energy Education Program and the UCT values range from 0.59 for the HEA Program to 5.36 for the SEM Program. The HEA Program has historically had low TRC and UCT values. HEA is a direct install program which has higher costs – there is a large direct install component leading to higher non-incentive costs. Since the gas component of the Elementary Energy Education Program had significantly higher gas savings and

<sup>9</sup> This section provides an identical discussion of joint TRC findings and results to ComEd, Nicor Gas, Peoples Gas, and North Shore Gas. Some of the findings do not apply to all of the utilities. For example, PGL and NSG did not participate in Residential New Construction or Strategic Energy Management in GPY4 through GPY6, and the findings discussed apply only to ComEd and Nicor Gas.

water savings, it resulted in a higher TRC value. The SEM Program has low incentive costs leading to a higher UCT value and relatively high benefits.

**Table 4-2. Summary of Program Level Benefits, Costs and IL TRC Test – Triennial Jointly Implemented Programs**

Program	Benefits						Costs			IL Total Resource Cost (TRC) Test			
	Avoided Electric Production	Avoided Electric Capacity	Avoided T&D Electric	Avoided Gas Savings	Avoided Gas Production	Other Benefits	Non-Incentive Costs	Incentive Costs	Incremental Costs (Net)	IL TRC Benefits	IL TRC Costs	IL TRC Test Net Benefits	IL TRC Test
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k) = (b+c+d+e+f+g)	(l) = (h+j)	(m) = (k-l)	(n) = (k/l)
Home Energy Assessment / Home Energy Savings / Home Energy Jumpstart	\$6,894,958	\$2,881,523	\$250,605	\$11,262,346	-\$1,725,246	\$11,582,370	\$17,396,597	\$15,702,854	\$19,407,141	\$31,146,556	\$36,803,739	-\$5,657,183	0.85
Multi-Family Retrofit	\$2,569,955	\$767,512	\$271,609	\$38,238,960	-\$599,747	\$22,208,584	\$8,943,081	\$13,659,735	\$20,440,018	\$63,456,874	\$29,383,098	\$34,073,775	2.16
Elementary Energy Education	\$2,412,355	\$835,751	\$107,696	\$3,073,983	-\$166,525	\$18,472,306	\$1,415,302	\$1,951,049	\$1,853,435	\$24,735,566	\$3,268,738	\$21,466,829	7.57
Residential New Construction	\$1,124,207	\$1,769,009	\$435,873	\$6,087,323	\$0	\$1,861,925	\$1,741,727	\$1,927,627	\$7,777,633	\$11,278,338	\$9,519,361	\$1,758,977	1.18
C&I Retrocommissioning	\$17,883,254	\$2,477,123	\$1,032,240	\$3,537,410	\$0	\$703,293	\$8,445,535	\$10,340,857	\$11,095,838	\$25,633,319	\$19,541,373	\$6,091,946	1.31
SEM	\$3,931,157	\$0	\$0	\$4,870,637	\$0	\$753,019	\$1,248,903	\$393,690	\$366,573	\$9,554,813	\$1,615,475	\$7,939,337	5.91
Business New Construction	\$56,606,657	\$39,386,823	\$4,239,954	\$13,125,866	\$0	\$4,426,889	\$11,692,513	\$18,389,910	\$59,453,025	\$117,786,190	\$71,145,537	\$46,640,652	1.66
<b>Aggregate</b>	<b>\$91,422,543</b>	<b>\$48,117,741</b>	<b>\$6,337,977</b>	<b>\$80,196,526</b>	<b>-\$2,491,519</b>	<b>\$60,008,386</b>	<b>\$50,883,658</b>	<b>\$62,365,722</b>	<b>\$120,393,663</b>	<b>\$283,591,655</b>	<b>\$171,277,321</b>	<b>\$112,314,333</b>	<b>1.66</b>

Note: The cost-benefit results included here are reflective of only the EEPs portion of the ComEd portfolio and are not inclusive of the Illinois Power Agency (IPA) portion.

Source: Navigant analysis

**Table 4-3. Summary of Program Level Benefits, Costs and Utility Cost Test (UCT) – Triennial Jointly Implemented Programs**

Program	Benefits						Costs			IL Utility Cost Test (UCT)			
	Avoided Electric Production	Avoided Electric Capacity	Avoided T&D Electric	Avoided Gas Savings	Avoided Gas Production	Other Benefits	Non-Incentive Costs	Incentive Costs	Incremental Costs (Net)	IL UCT Benefits	IL UCT Costs	IL UCT Test Net Benefits	IL UCT Test
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k) = (b+c+d+e+f)	(l) = (h+i)	(m) = (k-l)	(n) = (k/l)
Home Energy Assessment / Home Energy Savings / Home Energy Jumpstart	\$6,894,958	\$2,881,523	\$250,605	\$11,262,346	-\$1,725,246	\$0	\$17,396,597	\$15,702,854	\$19,407,141	\$19,564,186	\$33,099,451	-\$13,535,266	0.59
Multi-Family Retrofit	\$2,569,955	\$767,512	\$271,609	\$38,238,960	-\$599,747	\$0	\$8,943,081	\$13,659,735	\$20,440,018	\$41,248,290	\$22,602,816	\$18,645,474	1.82
Elementary Energy Education	\$2,412,355	\$835,751	\$107,696	\$3,073,983	-\$166,525	\$0	\$1,415,303	\$1,951,049	\$1,853,435	\$6,263,260	\$3,366,352	\$2,896,907	1.86
Residential New Construction	\$1,124,207	\$1,769,009	\$435,873	\$6,087,323	\$0	\$0	\$1,741,727	\$1,927,627	\$7,777,633	\$9,416,412	\$3,669,354	\$5,747,058	2.57
C&I Retrocommissioning	\$17,883,254	\$2,477,123	\$1,032,240	\$3,537,410	\$0	\$0	\$8,445,535	\$10,340,857	\$11,095,838	\$24,930,027	\$18,786,392	\$6,143,635	1.33
SEM	\$3,931,157	\$0	\$0	\$4,870,637	\$0	\$0	\$1,248,903	\$393,690	\$366,573	\$8,801,794	\$1,642,593	\$7,159,201	5.36
Business New Construction	\$56,606,657	\$39,386,823	\$4,239,954	\$13,125,866	\$0	\$0	\$11,692,513	\$18,389,910	\$59,453,025	\$113,359,301	\$30,082,423	\$83,276,878	3.77
<b>Aggregate</b>	<b>\$91,422,543</b>	<b>\$48,117,741</b>	<b>\$6,337,977</b>	<b>\$80,196,526</b>	<b>-\$2,491,519</b>	<b>\$0</b>	<b>\$50,883,658</b>	<b>\$62,365,722</b>	<b>\$120,393,663</b>	<b>\$223,583,268</b>	<b>\$113,249,381</b>	<b>\$110,333,888</b>	<b>1.97</b>

Note: The cost-benefit results included here are reflective of only the EEPS portion of the ComEd portfolio and are not inclusive of the Illinois Power Agency (IPA) portion.

Source: Navigant analysis

When combining these programs, some have a significant change to the TRC and UCT. The programs most effected are:

- Elementary Energy Education – all gas utilities reduce the ComEd TRC and UCT. The gas utilities program costs are higher compared to the avoided costs benefit.
- Residential New Construction – Nicor Gas TRC improves the joint TRC to be above the ComEd TRC which is below 1.0.
- Home Energy programs
  - NSG and PGL TRCs are much higher than the other utilities.
  - Lighting measures are cost-effective at the measure level and the largest source of the savings on the electric side but are not sufficient to balance the non-incentive costs.
  - For electric measure-level TRCs, electric only basis, the non-cost effective measures were standard programmable thermostats/reprogramming (0.14-0.22) and advanced power strips (APS)-tier 1 (0.56). Smart thermostats (2.02) and advanced power strips tier 2 (1.18) were cost effective, however. For gas measure-level TRCs, gas only basis, the non-cost effective measures were (for some utilities in some years): water heater setback (0.67, short life, minor measure) and smart thermostats with programmable baseline in condos (0.85-1.03, minor measure). In most other scenarios, thermostats were quite cost-effective on the gas side (1.30-2.91). On a joint basis, the gas and electric thermostat benefits were complementary at the measure level.
  - Considering program level TRCs (factoring in program admin and delivery costs), the HEA/HES/HEJ programs have significantly higher non-incentive costs relative to benefits than the other joint programs. The incremental measure costs for HEA/HES/HEJ relative to benefits are higher than other programs but generally comparable.
  - The low program TRCs are driven more by non-incentive program costs than inclusion of non-cost-effective measures. That suggests improving the TRC by taking steps to reduce program delivery costs per home and also increasing the first year and lifetime savings per home visit. The leave-behind kit of weatherization measures being planned for 2020 would increase savings per home with little extra delivery cost. The TRC is also helped by longer lived measures, and measures with lower incremental costs per savings benefit. PGL and NSG have noted that market saturation and repeat participation are becoming an issue (it is the eighth gas program year). The ComEd HEA and Nicor Gas HES programs have cost-effective TRCs in 2018.

## 5. LIST OF FINAL REPORTS

All recommendations and impact and process evaluation results are provided in reports produced annually. Annual evaluation reports can be found on the Illinois Energy Efficiency Stakeholder Advisory Group website<sup>10</sup>. A list of final reports by file name and program year is provided below.

### GPY4

1. PG NSG GPY4 Home Energy Jumpstart Evaluation Report 2016-03-01 Final
2. PG\_NSG GPY4 CI Custom Program Evaluation Report 2016-03-30 Final
3. PG\_NSG GPY4 CI Gas Optimization Program Eval Report 2016-03-01 Final
4. PG\_NSG GPY4 CI Prescriptive Eval Report 2016-03-30 Final
5. PG\_NSG GPY4 EEE Evaluation Report 2016-05-05 Final
6. PG\_NSG GPY4 Home Energy Reports Program Evaluation Report 2016-03-01 Final
7. PG\_NSG GPY4 Multi-Family Program Evaluation Report 2016-03-17 Final
8. PG-NSG GPY4 Small Business Program Eval Report 2016-03-30 Final
9. PG\_NSG Home Energy Rebates GPY4 Eval Report 2016-03-30 Final
10. RCx PY7-4 Evaluation Report 2016-03-19 Final

### PY5

1. ComEd CI New Construction EPY8-GPY5 Evaluation Report 2017-01-15 Final
2. EPY8-GPY5 RCx Evaluation Report 2017-02-13 Final
3. PG\_NSG GPY5 CI Custom Program Evaluation Report 2017-03-08 Final
4. PG\_NSG GPY5 CI Gas Optimization Evaluation Report 2017-03-03 Final
5. PG\_NSG GPY5 CI Prescriptive Program Evaluation Report 2017-01-25 Final
6. PG\_NSG GPY5 EEE Evaluation Report 2017-01-25 Final
7. PG\_NSG GPY5 HEJ Program Evaluation Report 2017-03-21 Final
8. PG\_NSG GPY5 HERebate Program Evaluation Report 2017 02 10 Final
9. PG\_NSG GPY5 Home Energy Reports Evaluation Report 2017-03-31 Final
10. PG\_NSG GPY5 Multi-Family Program Evaluation Report 2017-03-08 Final
11. PG\_NSG GPY5 Small Business Program Evaluation Report 2017-03-10 Final

### PY6

1. ComEd Nicor PG NSG EPY9 GPY6 Non-Res New Construction Impact Evaluation Report 2018-04-30 Final
2. ComEd RCx EPY9 GPY6 Impact Evaluation Report 2018-04-19 Final
3. Coordinated Utilities Non-Res NC EPY9-GPY6 NTG Memo 2018-09-21 Final
4. Coordinated Utilities RCx EPY9 GPY6 Process Results 2018-11-21
5. Coordinated Utilities RCx EPY9-GPY6 NTG Memo 2018-10-17
6. PGL and NSG CI Prescriptive Impact GPY6 Evaluation Report 2018-06-20 Final
7. PGL and NSG GPY6 EEE Impact Evaluation Report 2019-04-30 Final
8. PGL and NSG GPY6 HEJ Impact Evaluation Report 2018-09-04 Final Revised
9. PGL and NSG GPY6 MF Impact Evaluation Report 2018-08-14 Final Revised
10. PGL and NSG GPY6 Small Bus Impact Evaluation Report 2018-08-14 Final
11. PGL\_NSG GPY6 CI Custom Impact Evaluation Report 2018-08-24
12. PGL\_NSG GPY6 Gas Optimization Impact Evaluation Report 2018-06-22 Final
13. PGL\_NSG GPY6 Home Energy Rebate Impact Eval Report 2018-09-04 Final Revised
14. PGL\_NSG GPY6 Home Energy Reports Impact Eval Report 2018-08-14 Final
15. PGL\_NSG Home Energy Rebate GPY6 NTG Research Memo 2017-05-26
16. PGL\_NSG PY6 HEJ Process Evaluation Slidedoc 2019-03-07 Final
17. PGL-NSG Gas Optimization Program GPY6 NTG Memo 2018-10-05 Final

<sup>10</sup> <http://www.ilsag.info/evaluation-documents.html>

18. PGL-NSG Home Energy Jumpstart GPY6 NTG Research Memo 2018-10-05 Final

**PY6 BRIDGE PERIOD FORMER DCEO PROGRAMS**

1. Coordinated Utilities PS EPY9+ GPY6+ Non-Res New Construction Impact Evaluation Report 2018-08-29 Final
2. Coordinated Utilities Public Sector Bridge EPY9-GPY6 Impact Evaluation RCx Report 2018-08-09 Final
3. PGL and NSG GPY6-Bridge Public Sector Impact Eval Report 2018-10-08 Final
4. PGL\_NSJ GPY6 Bridge Period Income Eligible Programs Impact Eval Report 2018-09-11 Final

**GPY4 through GPY6 Summary Reporting**

1. Three\_Year\_Joint\_TRC\_Summary\_GPY4-6\_EPY7-9\_2020-02-12\_Final
2. North Shore Gas GPY4-6 TRC and Savings Summary 2020-03-06 Final