



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:
Nicor Gas**

Final

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Nicor 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 Nicor Gas Energy Efficiency Plan (EEP) portfolio of programs for GPY4 through GPY6¹. The verified net annual savings of 43,448,921 therms exceeded its compliance goal² of 32,840,998 net annual therms by 32 percent. Based on the Illinois TRC calculation, the portfolio TRC of 1.32 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 Nicor 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 Nicor 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 Nicor Gas energy efficiency portfolio includes two tests:

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

Importantly, the Nicor 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 Nicor 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 (EEP) 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 Nicor 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 program year period, the EEP portfolio was cost effective with a TRC ratio of 1.32, which breaks down to 1.86 for the Commercial and Industrial sector and 1.27 for the Residential sector. The former DCEO programs were not cost effective overall, with a 0.50 TRC, as shown in Table 1-2.

¹ 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.

² The compliance goal consists of the sum of the net annual therm savings goals for GPY4 through GPY6 plus the bridge period. The annual goals for GPY4, GPY5, and GPY6 are described in the footnote to Table 2 in the *Nicor Gas Energy Efficiency Plan, June 2014 - May 2017, Revised Plan Filed Pursuant to Order Docket No. 13-0549, May 30, 2014*: "***** The non-rounded Annual Therm Savings are as follows for Nicor Gas: 9,743,000 for PY4, 9,213,439 for PY5, 8,538,383 for PY6 and 27,494,619 Total". Although the Table 2 footnote indicated a total of 27,494,619 therms, the sum of the three annual goals is 27,494,822 therms, 203 therms more. The compliance goal for the bridge period EEP programs is 5,346,176 net annual therm savings, from Exhibit D in the Joint Verified Petition submitted in Docket 17-0212. Navigant combined the three annual EEP compliance goals with the bridge period EEP goal for the total of 32,840,998 therms.



Nicor Gas Total Resource Cost Test Results and Impact Summary Evaluation Report

Table 1-1. Summary of Nicor Gas GPY4-GPY6 IL TRC Results for EEP Programs – Nicor Gas Specific w/o Electric Data from Joint Programs

Program (a)	TRC Results for Nicor Gas, GPY4-6 Programs									
	Benefits			Costs			IL Total Resource Cost (TRC) Test			
	Avoided Gas Savings (b)	Other Benefits (c)	Other Benefits (d)	Non-Incentive Costs (e)	Incentive Costs (f)	Incremental Costs (Net) (g)	IL TRC Benefits (h) = (b+c)	IL TRC Costs (i) = (e+g)	IL TRC Test Net Benefits (j) = (h-i)	IL TRC Test (k) = (h/i)
EEP Portfolio - GPY4-6 Including Bridge Period										
BEER Program	\$ 35,113,345	\$ 7,761,753	GHG, NEBs, Water	\$ 3,505,612	\$ 5,602,007	\$ 7,444,862	\$ 42,875,098	\$ 10,950,474	\$ 31,924,625	3.92
Business Custom	\$ 38,747,832	\$ 10,990,479	GHG, NEBs	\$ 3,679,815	\$ 8,757,768	\$ 36,526,836	\$ 49,738,311	\$ 40,206,650	\$ 9,531,660	1.24
Retro-Commissioning	\$ 1,145,869	\$ 188,328	GHG, NEBs	\$ 192,076	\$ 362,985	\$ 273,501	\$ 1,334,197	\$ 465,576	\$ 868,621	2.87
Coordinated Business New Construction	\$ 11,718,679	\$ 3,521,849	GHG, NEBs	\$ 697,124	\$ 991,298	\$ 5,218,958	\$ 15,240,528	\$ 5,916,082	\$ 9,324,446	2.58
Strategic Energy Management	\$ 4,870,637	\$ 753,019	GHG, NEBs, Water	\$ 590,795	\$ 253,408	\$ 226,291	\$ 5,623,656	\$ 817,086	\$ 4,806,570	6.88
Small Business	\$ 9,490,284	\$ 2,584,147	GHG, NEBs, Water	\$ 2,984,663	\$ 3,088,210	\$ 6,754,721	\$ 12,074,430	\$ 9,739,384	\$ 2,335,047	1.24
EEP Business Subtotal	\$ 101,086,645	\$ 25,799,575		\$ 11,650,085	\$ 19,055,676	\$ 56,445,167	\$ 126,886,220	\$ 68,095,252	\$ 58,790,968	1.86
Home Energy Efficiency Rebate	\$ 66,337,515	\$ 18,303,994	GHG, NEBs, Water	\$ 10,749,743	\$ 15,397,572	\$ 69,692,409	\$ 84,641,509	\$ 80,442,152	\$ 4,199,357	1.05
Home Energy Savings	\$ 6,782,394	\$ 3,266,717	GHG, NEBs, Water	\$ 3,665,287	\$ 3,743,524	\$ 8,857,569	\$ 10,049,111	\$ 12,522,856	\$ (2,473,745)	0.80
Residential New Construction	\$ 6,087,323	\$ 1,861,925	GHG, NEBs	\$ 1,283,476	\$ 1,310,275	\$ 3,986,498	\$ 7,949,248	\$ 5,269,974	\$ 2,679,274	1.51
Energy Saving Kits	\$ 3,848,460	\$ 11,200,850	GHG, NEBs, Water	\$ 467,197	\$ 770,485	\$ 647,224	\$ 15,049,310	\$ 1,114,421	\$ 13,934,889	13.50
Elementary Energy Ed Kits	\$ 1,370,393	\$ 4,282,838	GHG, NEBs, Water	\$ 550,449	\$ 586,934	\$ 561,299	\$ 5,653,231	\$ 1,111,748	\$ 4,541,483	5.08
Behavioral Energy Savings Pilot	\$ 784	\$ 682,191	GHG, NEBs, Water	\$ 434,565	\$ -	\$ -	\$ 682,975	\$ 434,565	\$ 248,410	1.57
MF Program	\$ 11,551,395	\$ 4,527,267	GHG, NEBs, Water	\$ 2,755,485	\$ 3,852,063	\$ 6,553,102	\$ 16,078,662	\$ 9,308,587	\$ 6,770,075	1.73
EEP Residential Subtotal	\$ 95,978,265	\$ 44,125,783		\$ 19,906,202	\$ 25,660,853	\$ 90,298,101	\$ 140,104,048	\$ 110,204,303	\$ 29,899,744	1.27
Sum of EEP Programs	\$ 197,064,910	\$ 69,925,358	GHG, NEBs, Water	\$ 31,556,287	\$ 44,716,529	\$ 146,743,268	\$ 266,990,268	\$ 178,299,556	\$ 88,690,712	1.50
Other Portfolio Costs				\$ 24,547,614				\$ 24,547,614	\$ (24,547,614)	
Aggregate GPY4-6 EEP Portfolio	\$ 197,064,910	\$ 69,925,358	GHG, NEBs, Water	\$ 56,103,901	\$ 44,716,529	\$ 146,743,268	\$ 266,990,268	\$ 202,847,170	\$ 64,143,098	1.32

Source: Navigant research and analysis

Table 1-2. Summary of Nicor Gas GPY6 Bridge Period IL TRC Results for Former DCEO Programs – Nicor Gas Specific w/o Electric Data from Joint Programs

TRC Results for Nicor Gas, GPY6 Bridge Period Programs										
Program (a)	Benefits			Costs			IL Total Resource Cost (TRC) Test			
	Avoided Gas Savings	Other Benefits	Other Benefits	Non-Incentive Costs	Incentive Costs	Incremental Costs (Net)	IL TRC Benefits	IL TRC Costs	IL TRC Test Net Benefits	IL TRC Test
	(b)	(c)	(d)	(e)	(f)	(g)	(h) = (b+c)	(i) = (e+g)	(j) = (h-i)	(k) = (h/i)
Former DCEO Portfolio - GPY6 Bridge Period										
Affordable Housing New Constr.	\$ 37,131	\$ 11,030	GHG, NEBs, Water	\$ 22,580	\$ 33,812	\$ 9,737	\$ 48,160	\$ 32,318	\$ 15,843	1.49
Income Qualified Retrofit (MF and SF)	\$ 102,781	\$ 67,805	GHG, NEBs, Water	\$ 94,902	\$ 67,953	\$ 207,450	\$ 170,587	\$ 302,352	\$ (131,765)	0.56
Public Housing Authority	\$ 167,000	\$ 47,200	GHG, NEBs, Water	\$ 120,313	\$ 208,460	\$ 208,460	\$ 214,200	\$ 328,773	\$ (114,573)	0.65
Illinois Home Weatherization Assistance Program (IHWAP)	\$ 633,477	\$ 194,055	GHG, NEBs, Water	\$ 336,687	\$ 777,051	\$ 2,193,738	\$ 827,532	\$ 2,530,425	\$ (1,702,893)	0.33
Public Sector (PS) Standard	\$ 78,470	\$ 23,994	GHG, NEBs, Water	\$ 532,213	\$ 126,774	\$ 38,472	\$ 102,464	\$ 570,685	\$ (468,221)	0.18
PS Boiler Systems Efficiency	\$ 80,762	\$ 23,480	GHG, NEBs, Water	\$ 2,964	\$ 13,730	\$ 16,723	\$ 104,243	\$ 19,687	\$ 84,556	5.29
PS Custom	\$ 392,572	\$ 120,037	GHG, NEBs, Water	\$ 254,190	\$ 619,414	\$ 1,249,215	\$ 512,609	\$ 1,503,405	\$ (990,796)	0.34
PS Custom-Prescriptive*	\$ 660,579	\$ 188,654	GHG, NEBs, Water	\$ 528,271	\$ 413,364	\$ 852,001	\$ 849,234	\$ 1,380,272	\$ (531,039)	0.62
PS Retro-Commissioning	\$ 59,913	\$ 15,166	GHG, NEBs, Water	\$ 87,145	\$ 10,200	\$ 18,222	\$ 75,078	\$ 105,367	\$ (30,289)	0.71
PS Non-Res New Construction	\$ 481,298	\$ 147,168	GHG, NEBs, Water	\$ 110,617	\$ 449,169	\$ 396,365	\$ 628,465	\$ 506,982	\$ 121,483	1.24
Savings Through Efficient Products (STEP)	\$ 27,031	\$ 134,014	GHG, NEBs, Water	\$ 99,781	\$ 5,747	\$ 5,172	\$ 161,045	\$ 104,953	\$ 56,091	1.53
Sum of Former DCEO Programs - Bridge Period	\$ 2,721,014	\$ 972,603	GHG, NEBs, Water	\$ 2,189,663	\$ 2,725,674	\$ 5,195,556	\$ 3,693,617	\$ 7,385,219	\$ (3,691,602)	0.50
Other Portfolio Costs				\$ -				\$ -	\$ -	
Aggregate Former DCEO Bridge Portfolio	\$ 2,721,014	\$ 972,603	GHG, NEBs, Water	\$ 2,189,663	\$ 2,725,674	\$ 5,195,556	\$ 3,693,617	\$ 7,385,219	\$ (3,691,602)	0.50

* Custom-Prescriptive refers to prescriptive-type measures that were tracked as custom measures during the bridge period as a temporary accommodation.
Source: Navigant research and 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 Nicor Gas in Gas Plan Years 4 through 6 (GPY4 through GPY6), which ran from June 1, 2014 to December 31, 2017. Verified savings³ 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 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 website⁴. A list of final reports is provided in Section 5 of this report.

Verified energy savings are documented in Table 1-3 through Table 1-7. Detailed tables with verified program savings and costs are provided in Section 3.

Table 1-3. Nicor Gas EEP Portfolio Year 4 Results – Verified Net Energy Savings

Program/Path	Verified			
	RR*	Gross (Therms)	NTG†	Net (Therms)‡
HES Program	100%	418,819	86%	360,184
RNC Program	76%	232,651	80%	186,121
HEER Program	103%	4,775,472	79%	3,772,623
Energy Saving Kits	70%	699,839	84%	587,865
Elementary Energy Ed Kits	94%	115,801	79%	91,483
MF Behavioral (Not Active)				
MF Program	97%	1,022,676	93%	954,386
BEER Program	100%	4,606,355	83%	3,823,275
Business Custom	101%	2,755,419	53%	1,460,372
Coordinated RCx	146%	63,936	102%	65,215
Coordinated Bus. New Constr.	74%	366,956	52%	190,817
Strategic Energy Mgt (Not Active)				
Small Business	98%	900,668	100%	900,668
EEP Portfolio Total	98%	15,958,592	78%	12,393,009

* 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 Nicor 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

³ All savings shown exclude interactive electric effects that reduce natural gas savings.

⁴ <http://www.ilsag.info/evaluation-documents.html>

Table 1-4. Nicor Gas EEP Portfolio Year 5 Results – Verified Net Energy Savings

Program/Path	Verified			
	RR	Gross (Therms)	NTG	Net (Therms)
HES Program	106%	387,154	105%	406,511
RNC Program	94%	298,609	100%	298,609
HEER Program	101%	4,427,594	79%	3,497,800
Energy Saving Kits	99%	188,235	84%	158,117
Elementary Energy Ed Kits	94%	95,774	105%	100,562
MF Behavioral (Not Active)				
MF Program	100%	806,062	94%	759,655
BEER Program	101%	3,262,966	68%	2,218,817
Business Custom	98%	3,389,128	73%	2,474,063
Coordinated RCx	93%	287,914	102%	293,672
Coordinated Bus. New Constr.	93%	1,131,763	92%	1,041,222
Strategic Energy Mgt	130%	532,713	91%	484,769
Small Business	98%	1,256,156	93%	1,168,226
EEP Portfolio Total	100%	16,064,068	80%	12,902,023

Source: Navigant research and analysis

Table 1-5. Nicor Gas EEP Portfolio Year 6 Results – Verified Net Energy Savings

Program/Path	Verified			
	RR	Gross (Therms)	NTG	Net (Therms)
HES Program	100%	593,738	104%	620,090
RNC Program	94%	435,642	65%	283,167
HEER Program	100%	7,392,619	85%	6,303,995
Energy Saving Kits	99%	216,759	84%	182,078
Elementary Energy Ed Kits	116%	204,249	100%	204,249
MF Behavioral	104%	876	100%	876
MF Program	100%	730,255	94%	689,859
BEER Program	100%	8,404,877	68%	5,715,315
Business Custom	99%	2,264,572	73%	1,653,137
Coordinated RCx	113%	170,246	102%	173,651
Coordinated Bus. New Constr.	95%	357,085	67%	239,247
Strategic Energy Mgt	100%	1,917,797	100%	1,917,797
Small Business	101%	183,254	93%	170,428
EEP Portfolio Total	100%	22,871,969	79%	18,153,889

Source: Navigant research and analysis

Table 1-6. Nicor Gas Former DCEO Portfolio Year 6 Bridge Period Results – Verified Net Energy Savings

Program/Path	Verified			
	RR	Gross (Therms)	NTG	Net (Therms)
Affordable Housing New Constr.	100%	7,044	100%	7,044
Income Qualified Retrofit (MF and SF)	115%	29,605	100%	29,605
Public Housing Authority	112%	37,532	100%	37,532
Illinois Home Weatherization Assistance Program (IHWAP)	73%	105,030	100%	105,030
Public Sector (PS) Standard	98%	36,772	46%	16,915
PS Boiler Systems Efficiency	100%	18,560	87%	16,147
PS Custom	93%	85,664	74%	63,391
PS Custom-Prescriptive*	100%	191,670	74%	141,835
PS Retro-Commissioning	80%	17,888	102%	18,246
PS Non-Res New Construction	96%	115,998	67%	77,719
Savings Through Efficient Products (STEP)	92%	9,032	90%	8,129
Former DCEO Portfolio Total	93%	654,795	80%	521,593

* Custom-Prescriptive refers to prescriptive-type measures that were tracked as custom measures during the bridge period as a temporary accommodation.

Source: Navigant research and analysis

Table 1-7. Nicor Gas Portfolio Years 4 through 6 Results – Verified Net Energy Savings

Portfolio	Verified*	
	Gross (Therms)	Net (Therms)
EEP GPY4	15,958,592	12,393,009
EEP GPY5	16,064,068	12,902,023
EEP GPY6	22,871,969	18,153,889
EEP Portfolio Total	54,894,629	43,448,921
EEP Compliance Goal	NA	32,840,998
EEP Percent of Compliance Goal	NA	132%
Former DCEO Portfolio GPY6 Bridge Period Total	654,795	521,593

* Impacts shown exclude interactive electric effects that reduce natural gas savings.
 Source: Navigant research and analysis

2. COST EFFECTIVENESS METHODOLOGY

As part of Navigant's evaluation of Nicor Gas energy efficiency programs for gas program years four through six, we performed cost-benefit calculations based upon a combination of assumptions made by Nicor 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)⁵ 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.

⁵ 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 Nicor 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	<ul style="list-style-type: none"> • Avoided Natural Gas Costs • Line Losses (Unaccounted-for-Gas Factor) • Non-Energy Benefits (NEBs) Adder • Weighted Average Cost of Capital 	Nicor Gas
Generic	<ul style="list-style-type: none"> • Greenhouse Gas (GHG) Adder 	Illinois Energy Efficiency Stakeholders Advisory Group Agreement
Program Specific	<ul style="list-style-type: none"> • Verified Participants / Measure Count • Verified Gross and Net Energy Savings • Realization Rate • Net-to-Gross Ratio 	Navigant Final Evaluation Reports ⁶
Program Specific	<ul style="list-style-type: none"> • Non-Incentive Costs • Utility Incentive Costs 	Nicor Gas
Program Specific	<ul style="list-style-type: none"> • Incremental Measure Costs • Measure Life • Water Gallon Savings and Avoided Costs 	Nicor Gas / Navigant / Illinois TRM ⁷ / Other

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.

- For the TRC and UCT, a discount rate of 8.09 percent was applied, based on a weighted average cost of capital for Nicor Gas.
- Natural gas avoided costs are based on values provided by Nicor Gas: provided by Bruce Liu, December 19, 2018, file name: *Avoided Cost - To Share 2015-2017 Actual_Updated.xlsx*
 - For the years 2015 through 2017, avoided costs were drawn from actual Nicor Gas data. A Non-Energy Benefits adder is included and the GHG adder is zero prior to 2020. A line loss factor of 1.000 was applied.
 - For the years 2018 and beyond, avoided costs were forecast values from Nicor Gas. A GHG adder of \$0.134 per therm (based on a carbon adder of \$25/metric ton) agreed to by the Illinois SAG is included starting in 2020 for the TRC analysis and escalating at 5 percent. A Non-Energy Benefits adder is included and the GHG adder is zero prior to 2020. The line loss factor was 1.000.

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

⁶ Evaluation documents are available at: <http://www.ilsag.info/evaluation-documents.html>

⁷ Illinois Statewide Technical Reference Manual (Illinois TRM). Available at: <http://www.ilsag.info/technical-reference-manual.html>

- Energy saving benefits represent natural gas only taken from final evaluation verified results from GPY4, GPY5, and GPY6.
- Incentive amounts were obtained from Nicor Gas.
- Nicor Gas non-incentive costs were provided by Nicor Gas.
- For joint programs with ComEd, the measure costs are the Nicor Gas share of full incremental costs. Incentives and non-incentive costs are the Nicor Gas share of costs.
- For incremental measure costs, in cases where Nicor Gas does not provide the direct installation costs or the data is not tracked, we use the TRM. Professional judgement was used for reviewing and identifying the appropriate incremental measure costs (IMC). Navigant reviewed the data Nicor Gas provided for incremental measure costs. After analyzing the tracking data measure costs, the measure specific IMC deemed by the TRM, and the IMC data provided by Nicor Gas, Navigant was confident that the appropriate IMC values were assigned to each measure implemented. A similar analysis with reference to the TRM was done for future avoided costs (early replacement measures), measure life, and remaining life values.
- Navigant did not receive estimated incremental measure cost from Nicor Gas for the Strategic Energy Management (SEM) Program or the Non-Residential/Business New Construction and Residential New Construction Programs (BNC and RNC). For BNC and RNC, Navigant relied on ComEd studies that analyzed different projects or prototypical projects to assess the costs above the Illinois energy code. For SEM, Navigant made the assumption that incremental measure costs were equal to incentives.
- Water saving benefits from water saving measures rely upon the Illinois TRM and Nicor Gas analysis to estimate gallons of water saved per device. Water avoided costs were estimated using assumptions developed by Nicor Gas.
- For early replacement measures, Navigant calculated the savings for the remaining life of the existing equipment and the savings for the remaining measure life per the algorithms deemed in the TRM. This analysis is not included in the evaluation reports as they only list the first-year savings value for each measure.
- For all joint and coordinated programs with ComEd, including programs in the EEP 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 EEP portfolio include:

Table 2-2. Summary of Coordinated or Jointly Implemented EEP 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
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 and Table 3-2 for the Illinois TRC calculations and Table 3-3 and Table 3-4 for the Utility Cost Test calculations. The tables include the value of each benefit and cost component for each program totaled over three-plus years, as well as portfolio level totals for each component. Results for the EEP portfolio and former DCEO programs are shown separately.



Nicor Gas Total Resource Cost Test Results and Impact Summary Evaluation Report

Table 3-1. Summary of Nicor Gas GPY4-GPY6 IL TRC Results for EEP Programs – Nicor Gas Specific w/o Electric Data from Joint Programs

TRC Results for Nicor Gas, GPY4-6 Programs										
Program (a)	Benefits			Costs			IL Total Resource Cost (TRC) Test			
	Avoided Gas Savings (b)	Other Benefits (c)	Other Benefits (d)	Non-Incentive Costs (e)	Incentive Costs (f)	Incremental Costs (Net) (g)	IL TRC Benefits (h) = (b+c)	IL TRC Costs (i) = (e+g)	IL TRC Test Net Benefits (j) = (h-i)	IL TRC Test (k) = (h/i)
EEP Portfolio - GPY4-6 Including Bridge Period										
BEER Program	\$ 35,113,345	\$ 7,761,753	GHG, NEBs, Water	\$ 3,505,612	\$ 5,602,007	\$ 7,444,862	\$ 42,875,098	\$ 10,950,474	\$ 31,924,625	3.92
Business Custom	\$ 38,747,832	\$ 10,990,479	GHG, NEBs	\$ 3,679,815	\$ 8,757,768	\$ 36,526,836	\$ 49,738,311	\$ 40,206,650	\$ 9,531,660	1.24
Retro-Commissioning	\$ 1,145,869	\$ 188,328	GHG, NEBs	\$ 192,076	\$ 362,985	\$ 273,501	\$ 1,334,197	\$ 465,576	\$ 868,621	2.87
Coordinated Business New Construction	\$ 11,718,679	\$ 3,521,849	GHG, NEBs	\$ 697,124	\$ 991,298	\$ 5,218,958	\$ 15,240,528	\$ 5,916,082	\$ 9,324,446	2.58
Strategic Energy Management	\$ 4,870,637	\$ 753,019	GHG, NEBs, Water	\$ 590,795	\$ 253,408	\$ 226,291	\$ 5,623,656	\$ 817,086	\$ 4,806,570	6.88
Small Business	\$ 9,490,284	\$ 2,584,147	GHG, NEBs, Water	\$ 2,984,663	\$ 3,088,210	\$ 6,754,721	\$ 12,074,430	\$ 9,739,384	\$ 2,335,047	1.24
EEP Business Subtotal	\$ 101,086,645	\$ 25,799,575		\$ 11,650,085	\$ 19,055,676	\$ 56,445,167	\$ 126,886,220	\$ 68,095,252	\$ 58,790,968	1.86
Home Energy Efficiency Rebate	\$ 66,337,515	\$ 18,303,994	GHG, NEBs, Water	\$ 10,749,743	\$ 15,397,572	\$ 69,692,409	\$ 84,641,509	\$ 80,442,152	\$ 4,199,357	1.05
Home Energy Savings	\$ 6,782,394	\$ 3,266,717	GHG, NEBs, Water	\$ 3,665,287	\$ 3,743,524	\$ 8,857,569	\$ 10,049,111	\$ 12,522,856	\$ (2,473,745)	0.80
Residential New Construction	\$ 6,087,323	\$ 1,861,925	GHG, NEBs	\$ 1,283,476	\$ 1,310,275	\$ 3,986,498	\$ 7,949,248	\$ 5,269,974	\$ 2,679,274	1.51
Energy Saving Kits	\$ 3,848,460	\$ 11,200,850	GHG, NEBs, Water	\$ 467,197	\$ 770,485	\$ 647,224	\$ 15,049,310	\$ 1,114,421	\$ 13,934,889	13.50
Elementary Energy Ed Kits	\$ 1,370,393	\$ 4,282,838	GHG, NEBs, Water	\$ 550,449	\$ 586,934	\$ 561,299	\$ 5,653,231	\$ 1,111,748	\$ 4,541,483	5.08
Behavioral Energy Savings Pilot	\$ 784	\$ 682,191	GHG, NEBs, Water	\$ 434,565	\$ -	\$ -	\$ 682,975	\$ 434,565	\$ 248,410	1.57
MF Program	\$ 11,551,395	\$ 4,527,267	GHG, NEBs, Water	\$ 2,755,485	\$ 3,852,063	\$ 6,553,102	\$ 16,078,662	\$ 9,308,587	\$ 6,770,075	1.73
EEP Residential Subtotal	\$ 95,978,265	\$ 44,125,783		\$ 19,906,202	\$ 25,660,853	\$ 90,298,101	\$ 140,104,048	\$ 110,204,303	\$ 29,899,744	1.27
Sum of EEP Programs	\$ 197,064,910	\$ 69,925,358	GHG, NEBs, Water	\$ 31,556,287	\$ 44,716,529	\$ 146,743,268	\$ 266,990,268	\$ 178,299,556	\$ 88,690,712	1.50
Other Portfolio Costs				\$ 24,547,614				\$ 24,547,614	\$ (24,547,614)	
Aggregate GPY4-6 EEP Portfolio	\$ 197,064,910	\$ 69,925,358	GHG, NEBs, Water	\$ 56,103,901	\$ 44,716,529	\$ 146,743,268	\$ 266,990,268	\$ 202,847,170	\$ 64,143,098	1.32

Source: Navigant research and analysis

Table 3-2. Summary of Nicor Gas GPY6 Bridge Period IL TRC Results for Former DCEO Programs – Nicor Gas Specific w/o Electric Data from Joint Programs

TRC Results for Nicor Gas, GPY6 Bridge Period Programs										
Program (a)	Benefits			Costs			IL Total Resource Cost (TRC) Test			
	Avoided Gas Savings	Other Benefits	Other Benefits	Non-Incentive Costs	Incentive Costs	Incremental Costs (Net)	IL TRC Benefits	IL TRC Costs	IL TRC Test Net Benefits	IL TRC Test
	(b)	(c)	(d)	(e)	(f)	(g)	(h) = (b+c)	(i) = (e+g)	(j) = (h-i)	(k) = (h/i)
Former DCEO Portfolio - GPY6 Bridge Period										
Affordable Housing New Constr.	\$ 37,131	\$ 11,030	GHG, NEBs, Water	\$ 22,580	\$ 33,812	\$ 9,737	\$ 48,160	\$ 32,318	\$ 15,843	1.49
Income Qualified Retrofit (MF and SF)	\$ 102,781	\$ 67,805	GHG, NEBs, Water	\$ 94,902	\$ 67,953	\$ 207,450	\$ 170,587	\$ 302,352	\$ (131,765)	0.56
Public Housing Authority	\$ 167,000	\$ 47,200	GHG, NEBs, Water	\$ 120,313	\$ 208,460	\$ 208,460	\$ 214,200	\$ 328,773	\$ (114,573)	0.65
Illinois Home Weatherization Assistance Program (IHWAP)	\$ 633,477	\$ 194,055	GHG, NEBs, Water	\$ 336,687	\$ 777,051	\$ 2,193,738	\$ 827,532	\$ 2,530,425	\$ (1,702,893)	0.33
Public Sector (PS) Standard	\$ 78,470	\$ 23,994	GHG, NEBs, Water	\$ 532,213	\$ 126,774	\$ 38,472	\$ 102,464	\$ 570,685	\$ (468,221)	0.18
PS Boiler Systems Efficiency	\$ 80,762	\$ 23,480	GHG, NEBs, Water	\$ 2,964	\$ 13,730	\$ 16,723	\$ 104,243	\$ 19,687	\$ 84,556	5.29
PS Custom	\$ 392,572	\$ 120,037	GHG, NEBs, Water	\$ 254,190	\$ 619,414	\$ 1,249,215	\$ 512,609	\$ 1,503,405	\$ (990,796)	0.34
PS Custom-Prescriptive*	\$ 660,579	\$ 188,654	GHG, NEBs, Water	\$ 528,271	\$ 413,364	\$ 852,001	\$ 849,234	\$ 1,380,272	\$ (531,039)	0.62
PS Retro-Commissioning	\$ 59,913	\$ 15,166	GHG, NEBs, Water	\$ 87,145	\$ 10,200	\$ 18,222	\$ 75,078	\$ 105,367	\$ (30,289)	0.71
PS Non-Res New Construction	\$ 481,298	\$ 147,168	GHG, NEBs, Water	\$ 110,617	\$ 449,169	\$ 396,365	\$ 628,465	\$ 506,982	\$ 121,483	1.24
Savings Through Efficient Products (STEP)	\$ 27,031	\$ 134,014	GHG, NEBs, Water	\$ 99,781	\$ 5,747	\$ 5,172	\$ 161,045	\$ 104,953	\$ 56,091	1.53
Sum of Former DCEO Programs - Bridge Period	\$ 2,721,014	\$ 972,603	GHG, NEBs, Water	\$ 2,189,663	\$ 2,725,674	\$ 5,195,556	\$ 3,693,617	\$ 7,385,219	\$ (3,691,602)	0.50
Other Portfolio Costs				\$ -				\$ -	\$ -	
Aggregate Former DCEO Bridge Portfolio	\$ 2,721,014	\$ 972,603	GHG, NEBs, Water	\$ 2,189,663	\$ 2,725,674	\$ 5,195,556	\$ 3,693,617	\$ 7,385,219	\$ (3,691,602)	0.50

* Custom-Prescriptive refers to prescriptive-type measures that were tracked as custom measures during the bridge period as a temporary accommodation.

Source: Navigant research and analysis



Nicor Gas Total Resource Cost Test Results and Impact Summary Evaluation Report

Table 3-3. Summary of Nicor Gas GPY4-GPY6 UCT Results for EEP Programs – Nicor Gas Specific w/o Electric Data from Joint Programs

UCT Results for Nicor Gas, GPY4-6 Programs										
Program (a)	Benefits			Costs			Utility Cost Test (UCT)			
	Avoided Gas Savings	Other Benefits	Other Benefits	Non-Incentive Costs	Incentive Costs	Incremental Costs (Net)	UCT Benefits	UCT Costs	UCT Test Net Benefits	UCT Test
	(b)	(c)	(d)	(e)	(f)	(g)	(h) = (b)	(i) = (e+f)	(j) = (h-i)	(k) = (h/i)
EEP Portfolio - GPY4-6 Including Bridge Period										
BEER Program	\$ 35,113,345			\$ 3,505,612	\$ 5,602,007	\$ 7,444,862	\$ 35,113,345	\$ 9,107,619	\$ 26,005,726	3.86
Business Custom	\$ 38,747,832			\$ 3,679,815	\$ 8,757,768	\$ 36,526,836	\$ 38,747,832	\$ 12,437,583	\$ 26,310,249	3.12
Retro-Commissioning	\$ 1,145,869			\$ 192,076	\$ 362,985	\$ 273,501	\$ 1,145,869	\$ 555,061	\$ 590,808	2.06
Coordinated Business New Construction	\$ 11,718,679			\$ 697,124	\$ 991,298	\$ 5,218,958	\$ 11,718,679	\$ 1,688,422	\$ 10,030,257	6.94
Strategic Energy Management	\$ 4,870,637			\$ 590,795	\$ 253,408	\$ 226,291	\$ 4,870,637	\$ 844,203	\$ 4,026,434	5.77
Small Business	\$ 9,490,284			\$ 2,984,663	\$ 3,088,210	\$ 6,754,721	\$ 9,490,284	\$ 6,072,873	\$ 3,417,410	1.56
EEP Business Subtotal	\$ 101,086,645			\$ 11,650,085	\$ 19,055,676	\$ 56,445,167	\$ 101,086,645	\$ 30,705,761	\$ 70,380,884	3.29
Home Energy Efficiency Rebate	\$ 66,337,515			\$ 10,749,743	\$ 15,397,572	\$ 69,692,409	\$ 66,337,515	\$ 26,147,315	\$ 40,190,200	2.54
Home Energy Savings	\$ 6,782,394			\$ 3,665,287	\$ 3,743,524	\$ 8,857,569	\$ 6,782,394	\$ 7,408,811	\$ (626,417)	0.92
Residential New Construction	\$ 6,087,323			\$ 1,283,476	\$ 1,310,275	\$ 3,986,498	\$ 6,087,323	\$ 2,593,751	\$ 3,493,572	2.35
Energy Saving Kits	\$ 3,848,460			\$ 467,197	\$ 770,485	\$ 647,224	\$ 3,848,460	\$ 1,237,682	\$ 2,610,778	3.11
Elementary Energy Ed Kits	\$ 1,370,393			\$ 550,449	\$ 586,934	\$ 561,299	\$ 1,370,393	\$ 1,137,383	\$ 233,010	1.20
Behavioral Energy Savings Pilot	\$ 784			\$ 434,565	\$ -	\$ -	\$ 784	\$ 434,565	\$ (433,781)	0.00
MF Program	\$ 11,551,395			\$ 2,755,485	\$ 3,852,063	\$ 6,553,102	\$ 11,551,395	\$ 6,607,548	\$ 4,943,848	1.75
EEP Residential Subtotal	\$ 95,978,265			\$ 19,906,202	\$ 25,660,853	\$ 90,298,101	\$ 95,978,265	\$ 45,567,055	\$ 50,411,210	2.11
Sum of EEP Programs	\$ 197,064,910			\$ 31,556,287	\$ 44,716,529	\$ 146,743,268	\$ 197,064,910	\$ 76,272,816	\$ 120,792,094	2.58
Other Portfolio Costs				\$ 24,547,614				\$ 24,547,614	\$ (24,547,614)	
Aggregate GPY4-6 EEP Portfolio	\$ 197,064,910			\$ 56,103,901	\$ 44,716,529	\$ 146,743,268	\$ 197,064,910	\$ 100,820,430	\$ 96,244,480	1.95

Source: Navigant research and analysis

Table 3-4. Summary of Nicor Gas GPY6 Bridge Period UCT Results for Former DCEO Programs – Nicor Gas Specific w/o Electric Data from Joint Programs

UCT Results for Nicor Gas, GPY6 Bridge Period Programs										
Program (a)	Benefits			Costs			Utility Cost Test (UCT)			
	Avoided Gas Savings	Other Benefits	Other Benefits	Non-Incentive Costs	Incentive Costs	Incremental Costs (Net)	UCT Benefits	UCT Costs	UCT Test Net Benefits	UCT Test
	(b)	(c)	(d)	(e)	(f)	(g)	(h) = (b)	(i) = (e+f)	(j) = (h-i)	(k) = (h/i)
Former DCEO Portfolio - GPY6 Bridge Period										
Affordable Housing New Constr.	\$ 37,131			\$ 22,580	\$ 33,812	\$ 9,737	\$ 37,131	\$ 56,392	\$ (19,261)	0.66
Income Qualified Retrofit (MF and SF)	\$ 102,781			\$ 94,902	\$ 67,953	\$ 207,450	\$ 102,781	\$ 162,855	\$ (60,074)	0.63
Public Housing Authority	\$ 167,000			\$ 120,313	\$ 208,460	\$ 208,460	\$ 167,000	\$ 328,773	\$ (161,773)	0.51
Illinois Home Weatherization Assistance Program (IHWAP)	\$ 633,477			\$ 336,687	\$ 777,051	\$ 2,193,738	\$ 633,477	\$ 1,113,738	\$ (480,261)	0.57
Public Sector (PS) Standard	\$ 78,470			\$ 532,213	\$ 126,774	\$ 38,472	\$ 78,470	\$ 658,987	\$ (580,516)	0.12
PS Boiler Systems Efficiency	\$ 80,762			\$ 2,964	\$ 13,730	\$ 16,723	\$ 80,762	\$ 16,694	\$ 64,068	4.84
PS Custom	\$ 392,572			\$ 254,190	\$ 619,414	\$ 1,249,215	\$ 392,572	\$ 873,604	\$ (481,032)	0.45
PS Custom-Prescriptive*	\$ 660,579			\$ 528,271	\$ 413,364	\$ 852,001	\$ 660,579	\$ 941,635	\$ (281,055)	0.70
PS Retro-Commissioning	\$ 59,913			\$ 87,145	\$ 10,200	\$ 18,222	\$ 59,913	\$ 97,345	\$ (37,432)	0.62
PS Non-Res New Construction	\$ 481,298			\$ 110,617	\$ 449,169	\$ 396,365	\$ 481,298	\$ 559,786	\$ (78,488)	0.86
Savings Through Efficient Products (STEP)	\$ 27,031			\$ 99,781	\$ 5,747	\$ 5,172	\$ 27,031	\$ 105,528	\$ (78,497)	0.26
Sum of Former DCEO Bridge Programs	\$ 2,721,014			\$ 2,189,663	\$ 2,725,674	\$ 5,195,556	\$ 2,721,014	\$ 4,915,337	\$ (2,194,323)	0.55
Other Portfolio Costs				\$ -				\$ -	\$ -	
Aggregate Former DCEO Bridge Portfolio	\$ 2,721,014			\$ 2,189,663	\$ 2,725,674	\$ 5,195,556	\$ 2,721,014	\$ 4,915,337	\$ (2,194,323)	0.55

* Custom-Prescriptive refers to prescriptive-type measures that were tracked as custom measures during the bridge period as a temporary accommodation.

Source: Navigant research and analysis

A summary of the components of the Illinois TRC benefits and costs for each program are shown in Table 3-5 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 EEP portfolio and former DCEO programs are shown separately.

Table 3-5. Summary of Illinois TRC Benefits and Costs for GPY4 EEP Programs

TRC Results for Nicor Gas, GPY4 Programs										
Program (a)	Benefits			Costs			IL Total Resource Cost (TRC) Test			
	Avoided Gas Savings	Other Benefits	Other Benefits	Non-Incentive Costs	Incentive Costs	Incremental Costs (Net)	IL TRC Benefits	IL TRC Costs	IL TRC Test Net Benefits	IL TRC Test
	(b)	(c)	(d)	(e)	(f)	(g)	(h) = (b+c)	(i) = (e+g)	(j) = (h-i)	(k) = (h/i)
BEER Program	\$ 11,473,676	\$ 1,020,585	GHG, NEBs, Water	\$ 1,101,153	\$ 986,402	\$ 1,793,959	\$ 12,494,261	\$ 2,895,112	\$ 9,599,149	4.32
SBEEP Program	\$ 3,643,541	\$ 803,798	GHG, NEBs, Water	\$ 1,153,746	\$ 1,472,008	\$ 2,942,623	\$ 4,447,339	\$ 4,096,369	\$ 350,970	1.09
BNC Program	\$ 1,637,861	\$ 445,419	GHG, NEBs	\$ 189,197	\$ 395,765	\$ 624,256	\$ 2,083,280	\$ 813,453	\$ 1,269,826	2.56
Business Custom Program	\$ 11,050,147	\$ 2,773,428	GHG, NEBs	\$ 1,291,843	\$ 2,833,054	\$ 9,761,613	\$ 13,823,575	\$ 11,053,456	\$ 2,770,120	1.25
RNC Program	\$ 1,755,100	\$ 504,052	GHG, NEBs	\$ 383,083	\$ 373,320	\$ 1,190,570	\$ 2,259,152	\$ 1,573,653	\$ 685,500	1.44
MF Program	\$ 5,273,846	\$ 1,427,578	GHG, NEBs, Water	\$ 818,714	\$ 2,185,418	\$ 3,743,170	\$ 6,701,424	\$ 4,561,884	\$ 2,139,541	1.47
HES Program	\$ 2,132,454	\$ 962,603	GHG, NEBs, Water	\$ 1,042,360	\$ 1,098,359	\$ 3,286,199	\$ 3,095,057	\$ 4,328,559	\$ (1,233,502)	0.72
Home Energy Efficiency Rebate	\$ 21,457,627	\$ 4,642,932	GHG, NEBs, Water	\$ 2,554,395	\$ 5,282,039	\$ 19,557,131	\$ 26,100,559	\$ 22,111,526	\$ 3,989,033	1.18
Energy Saving Kits	\$ 2,586,861	\$ 6,518,367	GHG, NEBs, Water	\$ 219,354	\$ 453,585	\$ 381,012	\$ 9,105,229	\$ 600,366	\$ 8,504,863	15.17
EEE	\$ 371,047	\$ 858,414	GHG, NEBs, Water	\$ 152,800	\$ 155,854	\$ 123,124	\$ 1,229,461	\$ 275,925	\$ 953,537	4.46
Behavioral Energy Savings Pilot				\$ 45,937			\$ -	\$ 45,937	\$ (45,937)	
Sum of programs	\$ 61,382,162	\$ 19,957,176	GHG, NEBs, Water	\$ 8,952,582	\$ 15,235,805	\$ 43,403,658	\$ 81,339,338	\$ 52,356,240	\$ 28,983,098	1.55
Other Portfolio Costs				\$ 5,748,251				\$ 5,748,251	\$ (5,748,251)	
Aggregate Portfolio	\$ 61,382,162	\$ 19,957,176	GHG, NEBs, Water	\$ 14,700,833	\$ 15,235,805	\$ 43,403,658	\$ 81,339,338	\$ 58,104,491	\$ 23,234,847	1.40

Source: Navigant Analysis

Table 3-6. Summary of Illinois TRC Benefits and Costs for GPY5 EEP Programs

TRC Results for Nicor Gas, GPY5 Programs										
Program (a)	Benefits			Costs			IL Total Resource Cost (TRC) Test			
	Avoided Gas Savings (b)	Other Benefits (c)	Other Benefits (d)	Non-Incentive Costs (e)	Incentive Costs (f)	Incremental Costs (Net) (g)	IL TRC Benefits (h) = (b+c)	IL TRC Costs (i) = (e+g)	IL TRC Test Net Benefits (j) = (h-i)	IL TRC Test (k) = (h/i)
BEER Program	\$ 5,775,562	\$ 1,880,446	GHG, NEBs, Water	\$ 1,057,256	\$ 809,465	\$ 836,607	\$ 7,656,007	\$ 1,893,863	\$ 5,762,145	4.04
Business Custom	\$ 17,631,868	\$ 5,086,683	GHG, NEBs	\$ 1,284,269	\$ 2,562,277	\$ 11,476,890	\$ 22,718,551	\$ 12,761,159	\$ 9,957,392	1.78
Coordinated Retro-Commissioning	\$ 586,533	\$ 43,990	GHG, NEBs	\$ 109,102	\$ 312,717	\$ 150,284	\$ 630,523	\$ 259,385	\$ 371,138	2.43
Coordinated Business New Construction	\$ 8,624,063	\$ 2,623,394	GHG, NEBs	\$ 206,650	\$ 459,759	\$ 3,374,542	\$ 11,247,457	\$ 3,581,192	\$ 7,666,264	3.14
Strategic Energy Management	\$ 1,040,209	\$ 72,615	GHG, NEBs	\$ 114,159	\$ 36,093	\$ 32,844	\$ 1,112,824	\$ 147,003	\$ 965,821	7.57
Small Business	\$ 5,113,875	\$ 1,556,393	GHG, NEBs, Water	\$ 1,239,494	\$ 1,433,313	\$ 3,535,900	\$ 6,670,268	\$ 4,775,394	\$ 1,894,873	1.40
Residential New Construction	\$ 2,730,710	\$ 868,999	GHG, NEBs	\$ 390,699	\$ 383,551	\$ 1,910,129	\$ 3,599,709	\$ 2,300,828	\$ 1,298,881	1.56
MF Program	\$ 3,786,784	\$ 1,463,896	GHG, NEBs, Water	\$ 817,936	\$ 870,694	\$ 1,535,070	\$ 5,250,679	\$ 2,353,006	\$ 2,897,673	2.23
HES Program	\$ 2,076,924	\$ 860,207	GHG, NEBs, Water	\$ 862,301	\$ 863,944	\$ 2,777,882	\$ 2,937,131	\$ 3,640,183	\$ (703,051)	0.81
HEER Program	\$ 14,468,588	\$ 4,746,640	GHG, NEBs	\$ 3,368,913	\$ 3,682,758	\$ 14,453,447	\$ 19,215,228	\$ 17,822,360	\$ 1,392,868	1.08
ESK	\$ 622,166	\$ 1,856,311	GHG, NEBs, Water	\$ 10,920	\$ 150,826	\$ 126,710	\$ 2,478,478	\$ 137,630	\$ 2,340,848	18.01
EEE	\$ 282,054	\$ 822,647	GHG, NEBs, Water	\$ 149,491	\$ 141,085	\$ 148,179	\$ 1,104,701	\$ 297,670	\$ 807,031	3.71
Behavioral Energy Savings Pilot				\$ 28,114			\$ -	\$ 28,114	\$ (28,114)	
Sum of programs	\$ 62,739,335	\$ 21,882,221	GHG, NEBs, Water	\$ 9,639,303	\$ 11,706,481	\$ 40,358,484	\$ 84,621,556	\$ 49,997,787	\$ 34,623,769	1.69
Other Portfolio Costs				\$ 6,546,304				\$ 6,546,304	\$ (6,546,304)	
Aggregate Portfolio	\$ 62,739,335	\$ 21,882,221	GHG, NEBs, Water	\$ 16,185,607	\$ 11,706,481	\$ 40,358,484	\$ 84,621,556	\$ 56,544,091	\$ 28,077,465	1.50

Source: Navigant Analysis



Nicor Gas Total Resource Cost Test Results and Impact Summary Evaluation Report

Table 3-7. Summary of Illinois TRC Benefits and Costs for GPY6 EEP Programs

TRC Results for Nicor Gas, GPY6 Programs										
Program (a)	Benefits			Costs			IL Total Resource Cost (TRC) Test			
	Avoided Gas Savings	Other Benefits	Other Benefits	Non-Incentive Costs	Incentive Costs	Incremental Costs (Net)	IL TRC Benefits	IL TRC Costs	IL TRC Test Net Benefits	IL TRC Test
	(b)	(c)	(d)	(e)	(f)	(g)	(h) = (b+c)	(i) = (e+g)	(j) = (h-i)	(k) = (h/i)
EEP Portfolio - GPY6 Including Bridge Period										
BEER Program	\$ 17,864,108	\$ 4,860,723	GHG, NEBs, Water	\$ 1,347,203	\$ 3,806,140	\$ 4,814,296	\$ 22,724,830	\$ 6,161,499	\$ 16,563,332	3.69
Business Custom	\$ 10,065,817	\$ 3,130,368	GHG, NEBs	\$ 1,103,703	\$ 3,362,437	\$ 15,288,333	\$ 13,196,185	\$ 16,392,036	\$ (3,195,851)	0.81
Coordinated Retro-Commissioning	\$ 559,335	\$ 144,338	GHG, NEBs	\$ 82,974	\$ 50,268	\$ 123,217	\$ 703,674	\$ 206,191	\$ 497,482	3.41
Coordinated Business New Construction	\$ 1,456,756	\$ 453,036	GHG, NEBs	\$ 301,277	\$ 135,774	\$ 1,220,159	\$ 1,909,792	\$ 1,521,436	\$ 388,356	1.26
Strategic Energy Management	\$ 3,830,428	\$ 680,404	GHG, NEBs, Water	\$ 476,637	\$ 217,315	\$ 193,446	\$ 4,510,832	\$ 670,083	\$ 3,840,748	6.73
Small Business	\$ 732,868	\$ 223,956	GHG, NEBs, Water	\$ 591,423	\$ 182,890	\$ 276,197	\$ 956,823	\$ 867,620	\$ 89,204	1.10
Home Energy Efficiency Rebate	\$ 30,411,300	\$ 8,914,423	GHG, NEBs, Water	\$ 4,826,435	\$ 6,432,775	\$ 35,681,831	\$ 39,325,723	\$ 40,508,266	\$ (1,182,543)	0.97
Home Energy Savings	\$ 2,573,016	\$ 1,443,907	GHG, NEBs, Water	\$ 1,760,626	\$ 1,781,221	\$ 2,793,488	\$ 4,016,923	\$ 4,554,114	\$ (537,192)	0.88
Residential New Construction	\$ 1,601,513	\$ 488,874	GHG, NEBs	\$ 509,694	\$ 553,404	\$ 885,799	\$ 2,090,387	\$ 1,395,493	\$ 694,894	1.50
Energy Saving Kits	\$ 639,432	\$ 2,826,171	GHG, NEBs, Water	\$ 236,923	\$ 166,074	\$ 139,502	\$ 3,465,603	\$ 376,425	\$ 3,089,178	9.21
Elementary Energy Ed Kits	\$ 717,292	\$ 2,601,777	GHG, NEBs, Water	\$ 248,158	\$ 289,995	\$ 289,995	\$ 3,319,069	\$ 538,153	\$ 2,780,916	6.17
Behavioral Energy Savings Pilot	\$ 784	\$ 682,191	GHG, NEBs, Water	\$ 360,514	\$ -	\$ -	\$ 682,975	\$ 360,514	\$ 322,461	1.89
Multi-Family Program	\$ 2,490,765	\$ 1,635,793	GHG, NEBs, Water	\$ 1,118,835	\$ 795,951	\$ 1,274,862	\$ 4,126,559	\$ 2,393,697	\$ 1,732,861	1.72
Sum of EEP Programs	\$ 72,943,414	\$ 28,085,961	GHG, NEBs, Water	\$ 12,964,402	\$ 17,774,243	\$ 62,981,126	\$101,029,374	\$ 75,945,528	\$ 25,083,846	1.33
Other Portfolio Costs				\$ 12,253,059			\$ -	\$ 12,253,059	\$ (12,253,059)	
Aggregate GPY6 EEP Portfolio	\$ 72,943,414	\$ 28,085,961	GHG, NEBs, Water	\$ 25,217,461	\$ 17,774,243	\$ 62,981,126	\$101,029,374	\$ 88,198,587	\$ 12,830,787	1.15

Source: Navigant Analysis

Table 3-8. Summary of Illinois TRC Benefits and Costs for GPY6 Bridge Period Former DCEO Programs

TRC Results for Nicor Gas, GPY6 Programs										
Program (a)	Benefits			Costs			IL Total Resource Cost (TRC) Test			
	Avoided Gas Savings (b)	Other Benefits (c)	Other Benefits (d)	Non-Incentive Costs (e)	Incentive Costs (f)	Incremental Costs (Net) (g)	IL TRC Benefits (h) = (b+c)	IL TRC Costs (i) = (e+g)	IL TRC Test Net Benefits (j) = (h-i)	IL TRC Test (k) = (h/i)
Former DCEO Portfolio - GPY6 Bridge Period										
Affordable Housing New Constr.	\$ 37,131	\$ 11,030	GHG, NEBs, Water	\$ 22,580	\$ 33,812	\$ 9,737	\$ 48,160	\$ 32,318	\$ 15,843	1.49
Income Qualified Retrofit (MF and SF)	\$ 102,781	\$ 67,805	GHG, NEBs, Water	\$ 94,902	\$ 67,953	\$ 207,450	\$ 170,587	\$ 302,352	\$ (131,765)	0.56
Public Housing Authority	\$ 167,000	\$ 47,200	GHG, NEBs, Water	\$ 120,313	\$ 208,460	\$ 208,460	\$ 214,200	\$ 328,773	\$ (114,573)	0.65
Illinois Home Weatherization Assistance Program (IHWAP)	\$ 633,477	\$ 194,055	GHG, NEBs, Water	\$ 336,687	\$ 777,051	\$ 2,193,738	\$ 827,532	\$ 2,530,425	\$ (1,702,893)	0.33
Public Sector (PS) Standard	\$ 78,470	\$ 23,994	GHG, NEBs, Water	\$ 532,213	\$ 126,774	\$ 38,472	\$ 102,464	\$ 570,685	\$ (468,221)	0.18
PS Boiler Systems Efficiency	\$ 80,762	\$ 23,480	GHG, NEBs, Water	\$ 2,964	\$ 13,730	\$ 16,723	\$ 104,243	\$ 19,687	\$ 84,556	5.29
PS Custom	\$ 392,572	\$ 120,037	GHG, NEBs, Water	\$ 254,190	\$ 619,414	\$ 1,249,215	\$ 512,609	\$ 1,503,405	\$ (990,796)	0.34
PS Custom-Prescriptive*	\$ 660,579	\$ 188,654	GHG, NEBs, Water	\$ 528,271	\$ 413,364	\$ 852,001	\$ 849,234	\$ 1,380,272	\$ (531,039)	0.62
PS Retro-Commissioning	\$ 59,913	\$ 15,166	GHG, NEBs, Water	\$ 87,145	\$ 10,200	\$ 18,222	\$ 75,078	\$ 105,367	\$ (30,289)	0.71
PS Non-Res New Construction	\$ 481,298	\$ 147,168	GHG, NEBs, Water	\$ 110,617	\$ 449,169	\$ 396,365	\$ 628,465	\$ 506,982	\$ 121,483	1.24
Savings Through Efficient Products (STEP)	\$ 27,031	\$ 134,014	GHG, NEBs, Water	\$ 99,781	\$ 5,747	\$ 5,172	\$ 161,045	\$ 104,953	\$ 56,091	1.53
Sum of Former DCEO Bridge Programs	\$ 2,721,014	\$ 972,603	GHG, NEBs, Water	\$ 2,189,663	\$ 2,725,674	\$ 5,195,556	\$ 3,693,617	\$ 7,385,219	\$ (3,691,602)	0.50
Other Portfolio Costs							\$ -	\$ -		
Aggregate Former DCEO Bridge Portfolio	\$ 2,721,014	\$ 972,603	GHG, NEBs, Water	\$ 2,189,663	\$ 2,725,674	\$ 5,195,556	\$ 3,693,617	\$ 7,385,219	\$ (3,691,602)	0.50

* Custom-Prescriptive refers to prescriptive-type measures that were tracked as custom measures during the bridge period as a temporary accommodation.

Source: Navigant Analysis

A summary of the components of the UCT benefits and costs for each program are shown in Table 3-9 through Table 3-12 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 EEP portfolio and former DCEO programs are shown separately.

Table 3-9. Summary of UCT Benefits and Costs for GPY4 EEP Programs

UCT Results for Nicor Gas, GPY4 Programs										
Program (a)	Benefits			Costs			Utility Cost Test (UCT)			
	Avoided Gas Savings (b)	Other Benefits (c)	Other Benefits (d)	Non-Incentive Costs (e)	Incentive Costs (f)	Incremental Costs (Net) (g)	UCT Benefits (h) = (b)	UCT Costs (i) = (e+f)	UCT Test Net Benefits (j) = (h-i)	UCT Test (k) = (h/i)
BEER Program	\$ 11,473,676			\$ 1,101,153	\$ 986,402	\$ 1,793,959	\$ 11,473,676	\$ 2,087,555	\$ 9,386,121	5.50
SBEEP Program	\$ 3,643,541			\$ 1,153,746	\$ 1,472,008	\$ 2,942,623	\$ 3,643,541	\$ 2,625,754	\$ 1,017,788	1.39
BNC Program	\$ 1,637,861			\$ 189,197	\$ 395,765	\$ 624,256	\$ 1,637,861	\$ 584,962	\$ 1,052,899	2.80
Business Custom Program	\$ 11,050,147			\$ 1,291,843	\$ 2,833,054	\$ 9,761,613	\$ 11,050,147	\$ 4,124,897	\$ 6,925,250	2.68
RNC Program	\$ 1,755,100			\$ 383,083	\$ 373,320	\$ 1,190,570	\$ 1,755,100	\$ 756,403	\$ 998,697	2.32
MF Program	\$ 5,273,846			\$ 818,714	\$ 2,185,418	\$ 3,743,170	\$ 5,273,846	\$ 3,004,132	\$ 2,269,714	1.76
HES Program	\$ 2,132,454			\$ 1,042,360	\$ 1,098,359	\$ 3,286,199	\$ 2,132,454	\$ 2,140,719	\$ (8,265)	1.00
Home Energy Efficiency Rebate	\$ 21,457,627			\$ 2,554,395	\$ 5,282,039	\$ 19,557,131	\$ 21,457,627	\$ 7,836,434	\$ 13,621,193	2.74
Energy Saving Kits	\$ 2,586,861			\$ 219,354	\$ 453,585	\$ 381,012	\$ 2,586,861	\$ 672,939	\$ 1,913,922	3.84
EEE	\$ 371,047			\$ 152,800	\$ 155,854	\$ 123,124	\$ 371,047	\$ 308,654	\$ 62,393	1.20
Behavioral Energy Savings Pilot				\$ 45,937			\$ -	\$ 45,937	\$ (45,937)	
Sum of programs	\$ 61,382,162			\$ 8,952,582	\$ 15,235,805	\$ 43,403,658	\$ 61,382,162	\$ 24,188,387	\$ 37,193,775	2.54
Other Portfolio Costs				\$ 5,748,251				\$ 5,748,251	\$ (5,748,251)	
Aggregate Portfolio	\$ 61,382,162			\$ 14,700,833	\$ 15,235,805	\$ 43,403,658	\$ 61,382,162	\$ 29,936,638	\$ 31,445,524	2.05

Source: Navigant Analysis

Table 3-10. Summary of UCT Benefits and Costs for GPY5 EEP Programs

UCT Results for Nicor Gas, GPY5 Programs										
Program (a)	Benefits			Costs			Utility Cost Test (UCT)			
	Avoided Gas Savings	Other Benefits	Other Benefits	Non-Incentive Costs	Incentive Costs	Incremental Costs (Net)	UCT Benefits	UCT Costs	UCT Test Net Benefits	UCT Test
	(b)	(c)	(d)	(e)	(f)	(g)	(h) = (b)	(i) = (e+f)	(j) = (h-i)	(k) = (h/i)
BEER Program	\$ 5,775,562			\$ 1,057,256	\$ 809,465	\$ 836,607	\$ 5,775,562	\$ 1,866,721	\$ 3,908,840	3.09
Business Custom Program	\$ 17,631,868			\$ 1,284,269	\$ 2,562,277	\$ 11,476,890	\$ 17,631,868	\$ 3,846,545	\$ 13,785,322	4.58
RCx	\$ 586,533			\$ 109,102	\$ 312,717	\$ 150,284	\$ 586,533	\$ 421,819	\$ 164,715	1.39
BNC Program	\$ 8,624,063			\$ 206,650	\$ 459,759	\$ 3,374,542	\$ 8,624,063	\$ 666,409	\$ 7,957,654	12.94
Strategic Energy Management	\$ 1,040,209			\$ 114,159	\$ 36,093	\$ 32,844	\$ 1,040,209	\$ 150,251	\$ 889,958	6.92
Small Business	\$ 5,113,875			\$ 1,239,494	\$ 1,433,313	\$ 3,535,900	\$ 5,113,875	\$ 2,672,807	\$ 2,441,068	1.91
RNC Program	\$ 2,730,710			\$ 390,699	\$ 383,551	\$ 1,910,129	\$ 2,730,710	\$ 774,250	\$ 1,956,460	3.53
MF Program	\$ 3,786,784			\$ 817,936	\$ 870,694	\$ 1,535,070	\$ 3,786,784	\$ 1,688,630	\$ 2,098,154	2.24
HES Program	\$ 2,076,924			\$ 862,301	\$ 863,944	\$ 2,777,882	\$ 2,076,924	\$ 1,726,245	\$ 350,679	1.20
HEER Program	\$ 14,468,588			\$ 3,368,913	\$ 3,682,758	\$ 14,453,447	\$ 14,468,588	\$ 7,051,671	\$ 7,416,916	2.05
ESK	\$ 622,166			\$ 10,920	\$ 150,826	\$ 126,710	\$ 622,166	\$ 161,746	\$ 460,420	3.85
EEE	\$ 282,054			\$ 149,491	\$ 141,085	\$ 148,179	\$ 282,054	\$ 290,576	\$ (8,522)	0.97
Behavioral Energy Savings Pilot				\$ 28,114			\$ -	\$ 28,114	\$ (28,114)	
Sum of programs	\$ 62,739,335			\$ 9,639,303	\$ 11,706,481	\$ 40,358,484	\$ 62,739,335	\$ 21,345,784	\$ 41,393,551	2.94
Other Portfolio Costs				\$ 6,546,304				\$ 6,546,304	\$ (6,546,304)	
Aggregate Portfolio	\$ 62,739,335			\$ 16,185,607	\$ 11,706,481	\$ 40,358,484	\$ 62,739,335	\$ 27,892,088	\$ 34,847,247	2.25

Source: Navigant Analysis

Table 3-11. Summary of UCT Benefits and Costs for GPY6 EEP Programs

UCT Results for Nicor Gas, GPY6 Programs										
Program (a)	Benefits			Costs			Utility Cost Test (UCT)			
	Avoided Gas Savings	Other Benefits	Other Benefits	Non-Incentive Costs	Incentive Costs	Incremental Costs (Net)	UCT Benefits	UCT Costs	UCT Test Net Benefits	UCT Test
	(b)	(c)	(d)	(e)	(f)	(g)	(h) = (b)	(i) = (e+f)	(j) = (h-i)	(k) = (h/i)
EEP Portfolio - GPY6 Including Bridge Period										
BEER Program	\$ 17,864,108			\$ 1,347,203	\$ 3,806,140	\$ 4,814,296	\$ 17,864,108	\$ 5,153,343	\$ 12,710,765	3.47
Business Custom	\$ 10,065,817			\$ 1,103,703	\$ 3,362,437	\$ 15,288,333	\$ 10,065,817	\$ 4,466,140	\$ 5,599,677	2.25
Retro-Commissioning	\$ 559,335			\$ 82,974	\$ 50,268	\$ 123,217	\$ 559,335	\$ 133,242	\$ 426,093	4.20
Coordinated Business New Construction	\$ 1,456,756			\$ 301,277	\$ 135,774	\$ 1,220,159	\$ 1,456,756	\$ 437,051	\$ 1,019,705	3.33
Strategic Energy Management	\$ 3,830,428			\$ 476,637	\$ 217,315	\$ 193,446	\$ 3,830,428	\$ 693,952	\$ 3,136,476	5.52
Small Business	\$ 732,868			\$ 591,423	\$ 182,890	\$ 276,197	\$ 732,868	\$ 774,313	\$ (41,445)	0.95
Home Energy Efficiency Rebate	\$ 30,411,300			\$ 4,826,435	\$ 6,432,775	\$ 35,681,831	\$ 30,411,300	\$ 11,259,210	\$ 19,152,090	2.70
Home Energy Savings	\$ 2,573,016			\$ 1,760,626	\$ 1,781,221	\$ 2,793,488	\$ 2,573,016	\$ 3,541,847	\$ (968,831)	0.73
Residential New Construction	\$ 1,601,513			\$ 509,694	\$ 553,404	\$ 885,799	\$ 1,601,513	\$ 1,063,098	\$ 538,415	1.51
Energy Saving Kits	\$ 639,432			\$ 236,923	\$ 166,074	\$ 139,502	\$ 639,432	\$ 402,997	\$ 236,435	1.59
Elementary Energy Ed Kits	\$ 717,292			\$ 248,158	\$ 289,995	\$ 289,995	\$ 717,292	\$ 538,153	\$ 179,139	1.33
Behavioral Energy Savings Pilot	\$ 784			\$ 360,514	\$ -	\$ -	\$ 784	\$ 360,514	\$ (359,730)	0.00
MF Program	\$ 2,490,765			\$ 1,118,835	\$ 795,951	\$ 1,274,862	\$ 2,490,765	\$ 1,914,786	\$ 575,980	1.30
Sum of EEP Programs	\$ 72,943,414			\$ 12,964,402	\$ 17,774,243	\$ 62,981,126	\$ 72,943,414	\$ 30,738,645	\$ 42,204,768	2.37
Other Portfolio Costs				\$ 12,253,059				\$ 12,253,059	\$ (12,253,059)	
Aggregate GPY6 EEP Portfolio	\$ 72,943,414			\$ 25,217,461	\$ 17,774,243	\$ 62,981,126	\$ 72,943,414	\$ 42,991,704	\$ 29,951,709	1.70

Source: Navigant Analysis

Table 3-12. Summary of UCT Benefits and Costs for GPY6 Bridge Period Former DCEO Programs

UCT Results for Nicor Gas, GPY6 Bridge Period Programs										
Program (a)	Benefits			Costs			Utility Cost Test (UCT)			
	Avoided Gas Savings	Other Benefits	Other Benefits	Non-Incentive Costs	Incentive Costs	Incremental Costs (Net)	UCT Benefits	UCT Costs	UCT Test Net Benefits	UCT Test
	(b)	(c)	(d)	(e)	(f)	(g)	(h) = (b)	(i) = (e+f)	(j) = (h-i)	(k) = (h/i)
Former DCEO Portfolio - GPY6 Bridge Period										
Affordable Housing New Constr.	\$ 37,131			\$ 22,580	\$ 33,812	\$ 9,737	\$ 37,131	\$ 56,392	\$ (19,261)	0.66
Income Qualified Retrofit (MF and SF)	\$ 102,781			\$ 94,902	\$ 67,953	\$ 207,450	\$ 102,781	\$ 162,855	\$ (60,074)	0.63
Public Housing Authority	\$ 167,000			\$ 120,313	\$ 208,460	\$ 208,460	\$ 167,000	\$ 328,773	\$ (161,773)	0.51
Illinois Home Weatherization Assistance Program (IHWAP)	\$ 633,477			\$ 336,687	\$ 777,051	\$ 2,193,738	\$ 633,477	\$ 1,113,738	\$ (480,261)	0.57
Public Sector (PS) Standard	\$ 78,470			\$ 532,213	\$ 126,774	\$ 38,472	\$ 78,470	\$ 658,987	\$ (580,516)	0.12
PS Boiler Systems Efficiency	\$ 80,762			\$ 2,964	\$ 13,730	\$ 16,723	\$ 80,762	\$ 16,694	\$ 64,068	4.84
PS Custom	\$ 392,572			\$ 254,190	\$ 619,414	\$ 1,249,215	\$ 392,572	\$ 873,604	\$ (481,032)	0.45
PS Custom-Prescriptive*	\$ 660,579			\$ 528,271	\$ 413,364	\$ 852,001	\$ 660,579	\$ 941,635	\$ (281,055)	0.70
PS Retro-Commissioning	\$ 59,913			\$ 87,145	\$ 10,200	\$ 18,222	\$ 59,913	\$ 97,345	\$ (37,432)	0.62
PS Non-Res New Construction	\$ 481,298			\$ 110,617	\$ 449,169	\$ 396,365	\$ 481,298	\$ 559,786	\$ (78,488)	0.86
Savings Through Efficient Products (STEP)	\$ 27,031			\$ 99,781	\$ 5,747	\$ 5,172	\$ 27,031	\$ 105,528	\$ (78,497)	0.26
Sum of Former DCEO Bridge Programs	\$ 2,721,014			\$ 2,189,663	\$ 2,725,674	\$ 5,195,556	\$ 2,721,014	\$ 4,915,337	\$ (2,194,323)	0.55
Other Portfolio Costs								\$ -	\$ -	
Aggregate Former DCEO Bridge Portfolio	\$ 2,721,014			\$ 2,189,663	\$ 2,725,674	\$ 5,195,556	\$ 2,721,014	\$ 4,915,337	\$ (2,194,323)	0.55

* Custom-Prescriptive refers to prescriptive-type measures that were tracked as custom measures during the bridge period as a temporary accommodation.

Source: Navigant Analysis

3.2 Program Specific Verified Savings and Costs Summary

A summary of the components of the EEP verified savings and costs for each program are shown in Table 3-13 through Table 3-15 for each program year, and in Table 3-16 for the three-plus years combined. The tables include the component values for each program, as well as portfolio level totals for each component. Results for the GPY6 bridge period former DCEO programs are shown separately in Table 3-17.

Table 3-13. Summary of Verified Savings and Program Costs for GPY4 EEP

Nicor Gas GPY4 Verified EEP Summary Results												
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	\$			
EEP Residential Programs												
HES Program	100%	418,819	6,463,430	86%	360,184	5,558,544	\$5.94	\$0.39	\$2,140,719	4,380	Participants	15.4
RNC Program†	76%	232,651	6,979,530	80%	186,121	5,583,624	\$4.06	\$0.14	\$756,403	874	Homes	30.0
HEER Program	103%	4,775,472	66,474,310	79%	3,772,623	52,514,707	\$1.95	\$0.15	\$8,509,373	20,351	Participants	13.9
Energy Saving Kits	70%	699,839	6,813,099	84%	587,865	5,723,003				41,583	Kits Distributed	9.7
Elementary Energy Ed Kits	94%	115,801	943,278	79%	91,483	745,191	\$3.37	\$0.41	\$308,654	9,591	Kits Distributed	8.1
Behavioral Energy Savings Pilot									\$45,937			
Multi-Family Program	97%	1,022,676	13,850,712	93%	954,386	12,925,819	\$3.15	\$0.23	\$3,004,132	695	Projects	13.5
Total EEP Residential	96%	7,265,258	101,524,359	82%	5,952,662	83,050,888	\$2.48	\$0.18	\$14,765,218			14.0
EEP Business Programs												
BEER Program	100%	4,606,355	28,346,971	83%	3,823,275	23,527,988	\$0.55	\$0.09	\$2,087,555	355	Projects	6.2
Business Custom	101%	2,755,419	52,864,157	53%	1,460,372	28,018,002	\$2.70	\$0.15	\$4,124,897	60	Projects	19.2
Coordinated RCx	146%	63,936	319,680	102%	65,215	326,074				1	Participants	5.0
Coordinated Bus. New Constr.†	74%	366,956	9,173,900	52%	190,817	4,770,428	\$3.07	\$0.12	\$584,962	21	Projects	25.0
Strategic Energy Mgt (Not Active)											Not Active	
Small Business	98%	900,668	8,322,455	100%	900,668	8,322,452	\$2.92	\$0.32	\$2,625,754	950	Projects	9.2
Total EEP Business	99%	8,693,334	99,027,163	74%	6,440,347	64,964,944	\$1.46	\$0.15	\$9,423,168			11.4
Other Portfolio Costs									\$5,748,251			
EEP Portfolio Total	98%	15,958,592	200,551,522	78%	12,393,009	148,015,832	\$2.42	\$0.20	\$29,936,637			12.6

† Impacts shown exclude interactive electric effects that reduce natural gas savings.
Source: Navigant Analysis



Nicor Gas Total Resource Cost Test Results and Impact Summary Evaluation Report

Table 3-14. Summary of Verified Savings and Program Costs for GPY5 EEP

Nicor Gas GPY5 Verified EEP Summary Results												
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	\$			
EEP Residential Programs												
HES Program	106%	387,154	5,275,306	105%	406,511	5,539,062	\$4.25	\$0.31	\$1,726,245	5,503	Project IDs	13.6
RNC Program†	94%	298,609	8,958,270	100%	298,609	8,958,270	\$2.59	\$0.09	\$774,250	895	Homes	30.0
HEER Program	101%	4,427,594	72,306,348	79%	3,497,800	57,122,015				34,034	Units	16.3
Energy Saving Kits	99%	188,235	1,882,350	84%	158,117	1,581,170	\$1.97	\$0.12	\$ 7,213,417	10,844	Kits Distributed	10.0
Elementary Energy Ed Kits	94%	95,774	622,531	105%	100,562	653,653	\$2.89	\$0.44	\$290,576	8,737	Kits Distributed	6.5
Behavioral Energy Savings Pilot									\$28,114			
Multi-Family Program	100%	806,062	10,585,661	94%	759,655	9,976,218	\$2.22	\$0.17	\$1,688,630	601	Projects	13.1
Total EEP Residential	101%	6,203,428	99,630,466	84%	5,221,254	83,830,388	\$2.24	\$0.14	\$11,721,231			16.1
EEP Business Programs												
BEER Program	101%	3,262,966	21,401,958	68%	2,218,817	14,553,332	\$0.84	\$0.13	\$1,866,721	474	Projects	6.6
Business Custom	98%	3,389,128	65,022,197	73%	2,474,063	47,466,195	\$1.54	\$0.09	\$4,268,364	55	Projects	19.2
Coordinated RCx	93%	287,914	1,439,570	102%	293,672	1,468,360				10	Projects	5.0
Coordinated Bus. New Constr.†	93%	1,131,763	28,294,075	92%	1,041,222	26,030,550	\$0.64	\$0.03	\$666,409	27	Projects	25.0
Strategic Energy Management	130%	532,713	2,663,565	91%	484,769	2,423,845	\$0.31	\$0.06	\$150,251	10	Participants	5.0
Small Business	98%	1,256,156	14,391,457	93%	1,168,226	13,384,065	\$2.29	\$0.20	\$2,672,807	1,071	Projects	11.5
Total EEP Business	99%	9,860,640	133,212,822	78%	7,680,769	105,326,347	\$1.25	\$0.09	\$9,624,552			13.5
Other Portfolio Costs									\$6,546,304			
EEP Portfolio Total	100%	16,064,068	232,843,288	80%	12,902,023	189,156,735	\$2.16	\$0.15	\$27,892,088			14.5

† Impacts shown exclude interactive electric effects that reduce natural gas savings.

Source: Navigant Analysis

Table 3-15. Summary of Verified Savings and Program Costs for GPY6 EEP

Nicor Gas GPY6 Verified EEP Summary Results												
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	\$			
EEP Residential Programs												
HES Program	100%	593,738	7,540,473	104%	620,090	7,875,145	\$5.71	\$0.45	\$3,541,847	8,821	Projects	12.7
RNC Program†	94%	435,642	7,841,557	65%	283,167	5,097,012	\$3.75	\$0.21	\$1,063,098	1,424	Homes	18.0
HEER Program	100%	7,392,619	116,064,118	85%	6,303,995	98,972,722				53,345	Projects	15.7
Energy Saving Kits	99%	216,759	2,037,535	84%	182,078	1,711,537	\$1.80	\$0.12	\$11,662,207	12,233	Kits Distributed	9.4
Elementary Energy Ed Kits	116%	204,249	1,858,666	100%	204,249	1,858,666	\$2.63	\$0.29	\$538,153	15,033	Kits Distributed	9.1
Behavioral Energy Savings Pilot	104%	876	1,752	100%	876	1,752	\$411.55	\$205.77	\$360,514	133	Washing Machines	2.0
Multi-Family Program	100%	730,255	7,667,678	94%	689,859	7,243,517	\$2.78	\$0.26	\$1,914,786	673	Projects	10.5
Total EEP Residential	100%	9,574,138	143,011,779	87%	8,284,314	122,760,351	\$2.30	\$0.16	\$19,080,605			14.9
EEP Business Programs												
BEER Program	100%	8,404,877	73,122,430	68%	5,715,315	49,723,244	\$0.90	\$0.10	\$5,153,343	1,296	Projects	8.7
Business Custom	99%	2,264,572	43,447,000	73%	1,653,137	31,716,291	\$2.52	\$0.14	\$4,599,382	39	Projects	19.2
Coordinated RCx	113%	170,246	1,532,214	102%	173,651	1,562,858				14	Projects	9.0
Coordinated Bus. New Constr.†	95%	357,085	7,141,700	67%	239,247	4,784,939	\$1.83	\$0.09	\$437,051	23	Projects	20.0
Strategic Energy Management	100%	1,917,797	9,588,985	100%	1,917,797	9,588,985	\$0.36	\$0.07	\$693,952	8	Project Sites	5.0
Small Business	101%	183,254	2,327,326	93%	170,428	2,164,438	\$4.54	\$0.36	\$774,313	85	Projects	12.7
Total EEP Business	100%	13,297,831	137,159,655	74%	9,869,575	99,540,755	\$1.18	\$0.12	\$11,658,041			10.3
Other Portfolio Costs									\$12,253,059			
EEP Portfolio Total	100%	22,871,969	280,171,434	79%	18,153,889	222,301,106	\$2.37	\$0.19	\$42,991,704			12.2

† Impacts shown exclude interactive electric effects that reduce natural gas savings.

Source: Navigant Analysis

Table 3-16. Summary of Verified Savings and Program Costs for GPY4-6 EEP

Nicor Gas GPY4-6 Verified EEP Summary Results												
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	\$			
EEP Residential Programs												
HES Program	101%	1,399,711	19,279,209	99%	1,386,785	18,972,751	\$5.34	\$0.39	\$ 7,408,811	18,704	Projects/Participants*	13.8
RNC Program†	89%	966,902	23,779,357	79%	767,897	19,638,906	\$3.38	\$0.13	\$ 2,593,751	3,193	Homes	24.6
HEER Program	101%	16,595,685	254,844,776	82%	13,574,418	208,609,444	\$1.89	\$0.13	\$ 27,384,997	107,730	Projects/Participants*	15.4
Energy Saving Kits	78%	1,104,833	10,732,984	84%	928,060	9,015,710				64,660	Kits Distributed	9.7
Elementary Energy Ed Kits	103%	415,824	3,424,475	95%	396,294	3,257,510	\$2.87	\$0.35	\$ 1,137,383	33,361	Kits Distributed	8.2
Behavioral Energy Savings Pilot	104%	876	1,752	100%	876	1,752	\$496.08	\$248.04	\$ 434,565	133	Washing Machines	2.0
Multi-Family Program	99%	2,558,993	32,104,051	94%	2,403,900	30,145,554	\$2.75	\$0.22	\$ 6,607,548	1,969	Projects	12.5
Total EEP Residential	99%	23,042,824	344,166,604	84%	19,458,230	289,641,627	\$2.34	\$0.16	\$ 45,567,054			14.9
EEP Business Programs												
BEER Program	100%	16,274,198	122,871,359	72%	11,757,407	87,804,564	\$0.77	\$0.10	\$ 9,107,619	2,125	Projects	7.6
Business Custom	99%	8,409,119	161,333,354	66%	5,587,572	107,200,488				154	Projects	19.2
Coordinated RCx	104%	522,096	3,291,464	102%	532,538	3,357,292	\$2.12	\$0.12	\$ 12,992,643	25	Projects/Participants*	6.3
Coordinated Bus. New Constr. †	89%	1,855,804	44,609,675	79%	1,471,286	35,585,917	\$1.15	\$0.05	\$ 1,688,422	71	Projects/Participants*	24.0
Strategic Energy Management	105%	2,450,510	12,252,550	98%	2,402,566	12,012,830	\$0.35	\$0.07	\$ 844,203	18	Sites/Participants*	5.0
Small Business	99%	2,340,078	25,041,238	96%	2,239,322	23,870,955	\$2.71	\$0.25	\$ 6,072,873	2,106	Projects	10.7
Total EEP Business	99%	31,851,805	369,399,640	75%	23,990,691	269,832,046	\$1.28	\$0.11	\$ 30,705,761			11.6
Other Portfolio Costs									\$ 24,547,614			
EEP Portfolio Total	99%	54,894,629	713,566,244	79%	43,448,921	559,473,673	\$2.32	\$0.18	\$ 100,820,430			13.0

* Participation metrics vary by year, and are comparable for qualitative purposes only.

† Impacts shown exclude interactive electric effects that reduce natural gas savings.

Source: Navigant Analysis

Table 3-17. Summary of Verified Savings and Program Costs for GPY6 Bridge Period Former DCEO

Nicor Gas GPY6 Bridge Period Verified Former DCEO Verified Results												
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	\$			
Former DCEO Portfolio - GPY6 Bridge Period												
Affordable Housing New Constr.	100%	7,044	116,930	100%	7,044	116,930	\$8.01	\$0.48	\$56,392	1	Project	16.6
Income Qualified Retrofit (MF and SF)	115%	29,605	299,011	100%	29,605	299,011	\$5.50	\$0.54	\$162,855	28	Projects	10.1
Public Housing Authority	112%	37,532	487,916	100%	37,532	487,916	\$8.76	\$0.67	\$328,773	4	Projects	13.0
Illinois Home Weatherization Assistance Program (IHWAP)	73%	105,030	2,079,594	100%	105,030	2,079,594	\$10.60	\$0.54	\$1,113,738	270	Projects	19.8
Public Sector (PS) Standard	98%	36,772	658,219	46%	16,915	302,781	\$38.96	\$2.18	\$658,987	17	Projects	17.9
PS Boiler Systems Efficiency	100%	18,560	278,400	87%	16,147	242,208	\$1.03	\$0.07	\$16,694	3	Projects	15.0
PS Custom	93%	85,664	1,687,581	74%	63,391	1,248,810	\$13.78	\$0.70	\$873,604	5	Projects	19.7
PS Custom-Prescriptive*	100%	191,670	2,798,382	74%	141,835	2,070,788	\$6.64	\$0.45	\$941,635	46	Projects	14.6
PS Retro-Commissioning	80%	17,888	160,992	102%	18,246	164,212	\$5.34	\$0.59	\$97,345	2	Projects	9.0
PS Non-Res New Construction	96%	115,998	2,319,960	67%	77,719	1,554,373	\$7.20	\$0.36	\$559,786	7	Projects	20.0
Savings Through Efficient Products (STEP)	92%	9,032	83,094	90%	8,129	74,785	\$12.98	\$1.41	\$105,528	71	Projects	9.2
Former DCEO GPY6 Bridge Portfolio Total	93%	654,795	10,970,079	80%	521,593	8,641,408	\$9.42	\$0.57	\$4,915,337			16.8

* Custom-Prescriptive refers to prescriptive-type measures that were tracked as custom measures during the bridge period as a temporary accommodation.

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 analysis⁸ 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

⁸ 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
Aggregate	\$91,422,543	\$48,117,741	\$6,337,977	\$80,196,526	-\$2,491,519	\$60,008,386	\$50,883,658	\$62,365,722	\$120,393,663	\$283,591,655	\$171,277,321	\$112,314,333	1.66

Note: The cost-benefit results included here are reflective of only the EEP 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
Aggregate	\$91,422,543	\$48,117,741	\$6,337,977	\$80,196,526	-\$2,491,519	\$0	\$50,883,658	\$62,365,722	\$120,393,663	\$223,583,268	\$113,249,381	\$110,333,888	1.97

Note: The cost-benefit results included here are reflective of only the EEP 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 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 website⁹. A list of final reports by file name and program year is provided below.

GPY4

1. CI New Construction EPY7-GPY4 Evaluation Report 2016-03-19 Final
2. Joint GPY4 EPY7 EEE NTG memo 2016 02 16
3. Nicor Gas ComEd GYP4-EPY7 Residential New Construction Evaluation Report 2016-06-16 Final
4. Nicor Gas Fall 2014 BEER Program NTG Results Final 2015 01 07
5. Nicor Gas Fall 2014 Kits NTG Results Final 2016 12 23
6. Nicor Gas Fall 2014 MCEEP NTG Results Final 2015 01 22
7. Nicor Gas GPY4 ESK Evaluation Report 2016 04 29 Final
8. Nicor Gas GPY4 MFHES Program Evaluation Report_2017-02-02 Final
9. Nicor Gas GPY4 BEER Program Evaluation Report 2016-10-17 Final
10. Nicor Gas GPY4 Custom Program Evaluation Report 2016-08-25 Final
11. Nicor Gas GPY4 EEE Report Final 2016 05 12
12. Nicor Gas GPY4 HEER Program Evaluation Report 2016-08-29 Final
13. Nicor Gas GPY4 HES Evaluation Report 2016 11 11 Final
14. Nicor Gas GPY4 Small Business Program Evaluation Report 2017-02-03 Final
15. Nicor Gas HER Persistence Study Part 2 Final 2016-09-21
16. RCx PY7-4 Evaluation Report 2016-03-19 Final

GPY5

1. ComEd CI New Construction EPY8-GPY5 Evaluation Report 2017-01-15 Final
2. ComEd Nicor SEM EPY8 GPY5 Evaluation Report 2016-11-20
3. EPY8-GPY5 RCx Evaluation Report 2017-02-13 Final
4. Nicor Gas ComEd Residential New Construction GPY5 EPY8 Evaluation Report...
5. Nicor Gas GYP5 BEER Program Evaluation Report 2017-06-26 Final
6. Nicor Gas GPY5 Custom Program Evaluation Report 2017-10-30 Final
7. Nicor Gas GPY5 EEE Evaluation Report 2017-05-19 Final
8. Nicor Gas GPY5 ESK Evaluation Report 2017-05-09
9. Nicor Gas GPY5 HEER Evaluation Report 2017-07-17 Final Rev 2019-05-22
10. Nicor Gas GPY5 HES Evaluation Report Final 2017-08-15
11. Nicor Gas GPY5 MFHES Evaluation Report Final 2017-06-29
12. Nicor Gas GPY5 Small Business Program Evaluation Report 2017-09-12 Final

GPY6

1. ComEd and Nicor Gas Air Sealing Insulation Research 2018-09-24
2. ComEd Nicor Gas EPY9 GPY6 Residential New Construction Impact Evaluation Report 2018-04-24 Final
3. ComEd Nicor Gas GPY6-EPY9 2016 SEM Process Eval Memo 2018-09-04
4. ComEd Nicor PG NSG EPY9 GPY6 Non-Res New Construction Impact Evaluation Report 2018-04-30 Final
5. ComEd PY9 Nicor Gas PY6 SEM Impact Evaluation Report 2018-04-12 Final
6. ComEd RCx EPY9 GPY6 Impact Evaluation Report 2018-04-19 Final
7. Coordinated Utilities Non-Res NC EPY9-GPY6 NTG Memo 2018-09-21 Final

⁹ <http://www.ilsag.info/evaluation-documents.html>

8. Coordinated Utilities PS EPY9+ GPY6+ Non-Res New Construction Impact Evaluation Report 2018-08-29 Final
9. Coordinated Utilities Public Sector Bridge EPY9-GPY6 Impact Evaluation RCx Report 2018-08-09 Final
10. Coordinated Utilities RCx EPY9 GPY6 Process Results 2018-11-21
11. Coordinated Utilities RCx EPY9-GPY6 NTG Memo 2018-10-17
12. Nicor Gas GPY6 BEER Impact Evaluation Report 2018-09-16 Final
13. Nicor Gas GPY6 Bridge Period Income Qualified Impact Eval Report 2018-11-26 Final
14. Nicor Gas GPY6 Bridge Period Public Sector Impact Eval Report 2018-12-18 Final
15. Nicor Gas GPY6 Custom Program Impact Evaluation Report 2018-09-16 Final
16. Nicor Gas GPY6 Elementary Energy Education Impact Eval Report 2018-08-17 Final
17. Nicor Gas GPY6 ES Kits Impact Evaluation Report 2018-04-23 Final
18. Nicor Gas GPY6 HES Impact Evaluation Report 2018-06-08 Final
19. Nicor Gas GPY6 MF BES Impact Evaluation Report 2018-06-07 Final
20. Nicor Gas GPY6 MFHES Impact Evaluation Report 2018-07-24 Final
21. Nicor Gas GPY6 Small Business Program Impact Eval Report 2018-08-16 Final
22. Nicor Gas HEER GPY6 Impact Eval Report 2019-03-22 Revised Final
23. Nicor Gas Home Energy Savings GPY6 NTG Research Memo 2018-09-19 Final
24. Small Business 2019 Free Ridership Re-weighting Memo 2018-10-19
25. Nicor Gas HES Process Evaluation PY6 CY2018 2019-10-09

GPY4 through GPY6 Summary Reporting

1. Three_Year_Joint_TRC_Summary_GPY4-6_EPY7-9_2020-02-12_Final
2. Nicor Gas GPY4-6 TRC and Savings Summary 2020-02-21 Final