NAVIGANT

Home Energy Savings Program
GPY3 Evaluation Report

Final

Energy Efficiency Plan:
Nicor Gas Plan Year 3
(6/1/2013-5/31/2014)

Presented to
Nicor Gas Company

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E. Executive Summary

This report presents a summary of the findings and results from the impact and process evaluation of the GPY3 Home Energy Savings (HES) Program[1]. The Home Energy Savings Program is a joint program of Nicor Gas and Commonwealth Edison (ComEd), with Nicor Gas leading the program implementation. The Home Energy Savings program (HES) provides single-family homeowners who are customers of Nicor Gas a home weatherization service package and direct installation water savings measures, and CFLs to customers who are both Nicor Gas customers and ComEd customers. The weatherization package includes a comprehensive home energy assessment that includes combustion safety testing, direct installation of selected energy efficiency, and incentives for installing a recommended package of weatherization measures. The program also installs water-saving measures that achieve natural gas savings in homes with natural gas heated hot water. This report focuses on natural gas savings achieved by Nicor Gas program participants.

E.1. Program Savings

Table E-1 summarizes the program savings by measure. The GPY3 HES program realized net energy savings of 340,797 therms.

Table E-1. GPY3 Program Results

Savings Category	Nicor Gas (Therms)
Ex-ante Gross Savings[2]	397,430
Verified Gross Realization Rate	1.00‡
Verified Gross Savings	396,276
Net to gross ratio (NTGR)	0.86†
Verified Net Savings	340,797

Source: Navigant analysis of GPY3 tracking data.
† *A deemed value.*
‡ *Based on evaluation research findings.*

Table E-2 presents the ex-ante and verified gross and net gas savings for the GPY3 HES program, by measure. Direct install measures for the HES program include low-flow showerheads, low-flow kitchen and bathroom faucet aerators, hot water heater temperature setback, pipe insulation, programmable thermostats, and programmable thermostat education. Weatherization measures include attic, wall, duct, and floor insulation, along with air sealing measures. The weatherization measures of attic insulation and air sealing accounted for 82 percent all gas savings. Of the direct install measures, low-flow showerheads accounted for six percent of the total savings and programmable thermostat education accounted for five percent of the total savings. Overall, weatherization measures contributed 86 percent of the savings and direct-install measures contributed 14 percent of the savings.

[1] The GPY3 program year began June 1, 2013 and ended May 31, 2014.
[2] Based on tracking data extract from CSG, along with TRM savings update extract for gas measures

Table E-2. GPY3 Gas Program Results, by Measure

	Measure	Ex-ante Gross Savings (Therms)	Verified Gross Realization Rate	Verified Gross Savings (Therms)	NTGR	Verified Net Savings (Therms)
Direct Install Measures	Shower Head	24,031	1.00‡	24,029	0.86†	20,665
	Kitchen Aerator	1,889	1.02‡	1,923	0.86†	1,654
	Bathroom Aerator	2,097	1.00‡	2,089	0.86†	1,797
	Hot Water Temperature Setback	2,304	1.00‡	2,304	0.86†	1,981
	Pipe Insulation	3,829	0.30‡	1,142	0.86†	983
	Programmable Thermostat	4,793	0.91‡	4,371	0.86†	3,759
	Programmable Thermostat Education	18,357	1.00‡	18,373	0.86†	15,801
Subtotal		57,301	0.95	54,232	0.86†	46,639
Weatherization Measures	Attic Insulation	177,049	1.00	177,049	0.86†	152,263
	Wall Insulation	7,384	1.00	7,384	0.86†	6,350
	Floor Insulation	10,752	1.00	10,752	0.86†	9,246
	Duct Insulation & Sealing	1,199	1.00	1,199	0.86†	1,031
	Air Sealing	142,939	1.02‡	145,660	0.86†	125,268
Subtotal		339,324	1.01	342,044	0.86†	294,158
Total		396,430	1.00	396,276	0.86†	340,797

Source: Navigant analysis of GPY3 tracking data. Includes GPY2 true-up measures.
† *A deemed value.*
‡ *Based on evaluation research findings.*

E.3. Impact Estimate Parameters

In the course of estimating verified gross and net savings, the evaluation used a variety of parameters in its calculations. Most of the parameters for direct install measure savings calculations were deemed. For showerhead, aerator, and pipe insulation measures, the evaluation used custom input values obtained during site visits as well as deemed parameters. The evaluation used deemed values from the TRM for hot water temperature setback and programmable thermostat savings. For weatherization measure savings estimates, the implementation contractor, CSG, used its own calculations in its proprietary EnergyMeasure® Home (EM HOME) software, which Navigant verified in GPY1/EPY4 (see Section 2.3 for detail). For net savings calculations, the Stakeholder Advisory Group (SAG) deemed an overall NTGR value for Nicor Gas savings. This report provides further overview of impact parameters in Section 2.2.

E.4. Participation Information

The GPY3 HES program had 2,981 total participants. Table E-3 provides an overview of gas measure participation during GPY3. Overall program participation and weatherization jobs increased about 7.5% from GPY2 levels.

Table E-3. GPY3 Primary Participation Detail

Participation	Nicor Gas
Participants (Assessments)	2,981
Direct Install Measures	4,673
Low-Flow Showerheads	1,156
Kitchen and Bathroom Faucet Aerators	2,488
Hot Water Temperature Setback	360
Pipe Insulation (Linear Feet)	465
Weatherization Participants	1,366

Source: Navigant analysis of GPY3 tracking data. Includes GPY2 true-up participants.

E.5. Conclusions and Recommendations

The following provides key program impact and process findings and recommendations.

Program Savings Achievement

Finding 1. The GPY3 program set to achieve net savings of 854,920 therms. Navigant reports verified gross savings of 396,276 therms and verified net savings of 340,797 therms. As reported to Navigant by the program manager, one of the consequences of changing the implementation contractor was that the planned amount of participation was not fully reached, partially due to the reduction of marketing and outreach prior to the implementation contractor change before the end of the program year.

Gross Realization Rates

Finding 2. Navigant reports overall gross realization rates of 100% for therms, however realization rates for pipe insulation were 30%, as detailed in Section 3.4.

Recommendation 2. Navigant recommends updating ex-ante calculations for pipe insulation based on the findings presented in Section 3.4.

Net-to-Gross Rate

Finding 3. Navigant used the SAG deemed program NTGR of 0.86 to calculate the overall verified net savings.

Tracking System Review

Finding 4. The evaluation team found that though it is possible to identify full-participants from assessment-only participants in the tracking database judging by their measure

installations, there is no unique field clearly designating full-participants from assessment-only participants.

Recommendation 4. Navigant recommends adding a field in the tracking database for participant type to distinguish full-participants from assessment-only participants. This will help ensure clear differentiation between the two participants groups in the tracking data for analysis and will simplify tracking the program's conversion rate (share of assessment participants who elect weatherization), which is key to obtaining deeper therm savings per participant.

Program Participation

Finding 5. The GPY3 HES program resulted in participation of 2,981 total customers, including completion of weatherization jobs at 1,366 residences. This is slightly more than GPY2 participation, with an increase in total participants of 7.5% and an increase in weatherization jobs of 64%, likely due to the increased amount of the rebate ($1,750) for a portion of the program year.

Recommendation 5. If Nicor's goal is to increase participation, Navigant recommends increasing marketing so that more potential participants are aware of the program.

1. Introduction

1.1 Program Description

The Home Energy Savings (HES) program is a joint program of Nicor Gas and Commonwealth Edison (ComEd), with Nicor Gas leading the program implementation. In GPY3[3], the HES program sought to achieve 854,920 therms of net savings[4] through the implementation of home energy assessments to promote discounted weatherization services and the direct installation of energy efficiency measures in residential Nicor Gas and/or ComEd in Nicor Gas territory single-family home residences or two to four unit buildings.

1.1.1 Implementation Strategy

The HES program provided discounted whole-home assessments (e.g., energy assessments) to customers to identify opportunities for installing energy efficiency measures and weatherizing the home. Program activities were implemented through CSG staff and contracted weatherization providers. During the assessment, CFLs, showerheads, aerators, hot water temperature setback, programmable thermostat setting, and pipe insulation were directly installed at no additional charge for instant energy savings. A programmable thermostat was also offered at a reduced price for interested participants. CSG's dedicated assessment staff generated a recommendation report for customers using proprietary software that used the customer's home characteristic information. The customer report outlined recommended measures (e.g. attic insulation, air sealing), potential savings, payback periods, and the amount of incentives available for recommended work. Customers chose the projects they wanted to pursue. A program-eligible contractor was then assigned to perform the work and discounts were offered instantaneously. The contractor was responsible for submitting paperwork to CSG to receive rebate funds. Customers who pursued weatherization projects in GPY3 were eligible to receive incentives of 70% of costs for the recommended weatherization upgrades (up to $1,750 per home for a portion of the program year).

1.1.2 Program Marketing and Outreach

The Home Energy Savings program utilized an integrated marketing plan that included website content, direct mail promotions to residents, and some community events along with direct promotion by weatherization contractors. The marketing message stressed the importance of homeowners' need to care for their home investment and energy performance. Messaging focused on getting customers to take advantage of the program's key benefits, savings, and comfort. Trade allies who installed air sealing and insulation also benefited from the program by having credibility established through participating with the utilities. Furthermore, the program provided program-related administrative and technical training, and standardized high-quality practices in the market through a quality assurance and control (QA/QC) process.

[3] Gas Program Year 3

[4] These savings targets were set before GPY1/EPY4 as part of a three-year plan and were revised with the implementation contractor in GPY2/EPY5. This report uses the savings figures from the original three-year plan.

1.2 Evaluation Objectives

In line with Navigant's program evaluation plans for the Nicor Gas GPY3 portfolio of energy efficiency programs, the Evaluation Team identified the following key researchable questions for GPY3:

1.2.1 Impact Questions

1. What is the level of verified gross and net annual energy therm savings induced by the program?
2. Did the program meet its energy savings goals?
3. Are the assumptions and calculations for the direct-install measures in compliance with the statewide TRM and reflective of sound engineering judgment for gas impacts?

1.2.2 Process Questions

1. Has the program changed since GPY2?

2. Evaluation Approach

This evaluation of the HES program reflects the third full-scale year of joint program operation.

2.1 Overview of Data Collection Activities

The core data collection activities included in-depth interviews with program staff. The full set of data collection activities is shown in the following table.

Table 2-1. Core Data Collection Activities

	What	Who	Target Completes	Completes Achieved	When
Impact Assessment					
1	Tracking System Review	Participants	Census	Census	February-May 2015
2	Engineering Analysis	Participants	Census	Census	February-May 2015
Process Assessment					
5	In Depth Interviews	Program Manager/Implementer Staff	1-2	1	March 2014

2.2 Verified Savings Parameters

Navigant calculated verified gross direct install savings from the GPY3 HES program using algorithms, assumptions, and parameters defined in the Illinois TRM version 2.0. Additionally, Navigant sourced HVAC and water heating variables from the tracking database provided by CSG. Navigant used SAG-deemed NTGR to calculate verified net savings. The key parameters used in the analysis are shown in Table 2-2.

Table 2-2. Impact Estimate Parameters

Parameter	Value	Data Source	Deemed, Evaluated, or Research Findings
NTGR – Nicor Gas All Measures	0.86	SAG Spreadsheet †	Deemed
Showerhead In-Service Rate	0.98	Illinois TRM, v2.0, Section 5.4.6	Deemed
Faucet Aerators In-Service Rate	0.95	Illinois TRM, v2.0, Section 5.4.5	Deemed

†Nicor Gas – Net-to-Gross Results and Application, GPY1-3, Table 1 (Revised). July 2, 2013
‡ http://ilsagfiles.org/SAG_files/Meeting_Materials/2013/August 5-6, 2013 Meeting/ComEd PY5-PY6 Proposal Comparisons with SAG.xls

2.3 Verified Gross Program Savings Analysis Approach

For direct install measures in GPY3, Navigant performed an engineering review. Nicor Gas provided the tracking data and savings values for direct install measures based on the Illinois TRM version 2.0.

For weatherization projects, in GYP1/EPY4 Navigant performed a thorough literature review to compare evaluated savings values for projects with weatherization offerings similar to the HES program. Based on the findings from the literature review, Navigant determined that the savings values from CSG's EnergyMeasure® HOME (EM HOME) model compare favorably with evaluated savings for similar programs and climates. Navigant accepts CSG's weatherization measure savings assumptions for GPY3. Further detail on Navigant's weatherization literature review can be found in the GY1/EP4 HES Report.[5]

2.4 Verified Net Program Savings Analysis Approach

Verified net energy savings were calculated by multiplying the Verified Gross Savings estimates by a net-to-gross ratio (NTGR). For GPY3, the evaluation team used NTGR values that were based on past evaluation research and defined through a negotiation process through SAG.[6]

2.5 Process Evaluation

The GPY3 evaluation activities included minimal process research, as planned. A program manager interview was conducted in March 2014 to determine the changes to the program. The program implementer transitioned from CSG to CLEAResult during GPY3. To ensure a smooth transition from one implementation contractor to another, CSG was asked to complete their involvement with the program a month prior to the end of the program year, and CLEAResult was asked to begin performing assessments three months prior to the end of the program year. According to the transition plan, on February 24, CLEAResult's call center started handling the program's calls. CSG did not reach their participation goals since they ceased marketing and outreach prior to ending their support. On September 30, the Energy Impact Illinois funding ended and the weatherization rebate decreased to $1,250 from $1,750, which resulted in less than anticipated participation. To offset the lower participation, the program decreased the cost of the audit to the customer from $99 to $49 in November. However in the beginning of January, extremely cold weather for extended periods of time (polar vortex) resulted in a significant increase in customer demand for home assessments so the program increased the cost of the assessment to the customer back to $99 in mid-January.

[5] Energy Efficiency ComEd Plan Year 4, Nicor Gas Plan Year 1 (6/1/2011-5/31/2012) evaluation Report: Home Energy Savings Program. May 2013.

[6] http://ilsagfiles.org/SAG_files/Meeting_Materials/2013/August%205-6,%202013%20Meeting/Nicor_Gas_NTG_Results_and_Application_GPY1-3.pdf

3. Gross Impact Evaluation

In this section Navigant presents verified savings for the GPY3 HES program. Navigant performed a tracking system review on the tracking system provided by Nicor Gas and calculated verified gross program savings. Navigant determined the following findings and recommendations:

Program Savings Achievement

Finding 1. The GPY3 program set to achieve net savings of 854,920 therms. Navigant reports verified gross savings of 396,276 therms and verified net savings of 340,797 therms. As reported to Navigant by the program manager, one of the consequences of changing the implementation contractor was that the planned amount of participation was not fully reached, partially due to the reduction of marketing and outreach prior to the implementation contractor change before the end of the program year.

Gross Realization Rates

Finding 2. Navigant reports overall gross realization rates of 100% for therms, however realization rates for pipe insulation were 30%, as detailed in Section 3.4.

Recommendation 2. Navigant recommends updating ex-ante calculations for pipe insulation based on the findings presented in Section 3.4.

Net-to-Gross Rate

Finding 3. Navigant used the SAG deemed program NTGR of 0.86 to calculate the overall verified net savings.

Tracking System Review

Finding 4. The evaluation team found that though it is possible to identify full-participants from assessment-only participants in the tracking database judging by their measure installations, there is no unique field clearly designating full-participants from assessment-only participants.

Recommendation 4. Navigant recommends adding a field in the tracking database for participant type to distinguish full-participants from assessment-only participants. This will help ensure clear differentiation between the two participants groups in the tracking data for analysis and will simplify tracking the program's conversion rate (share of assessment participants who elect weatherization), which is key to obtaining deeper therm savings per participant.

3.1 Tracking System Review

For the GPY3 evaluation, Navigant reviewed the tracking system provided by Nicor Gas to verify the completeness and accuracy of the tracking system data and to identify any issues that would affect the impact evaluation of the HES program. Navigant found these documents sufficient to complete the gross impact evaluation of the HES program.

Key findings from the tracking system review include:

1. Navigant determined that it would be helpful for the evaluation team if there were a field in the tracking database designating full-participants and assessment-only participants.

Table 3-1 below shows the ex-ante energy savings claimed for the HES program for GPY3, including both direct install and weatherization measures. The number of participants and the number of installed units among participants with gas water heaters and electric water heaters are also included for each measure.

Table 3-1. GPY3 Ex-Ante Gross Impact, by Measure

Measure		Total Participants	Installed Units	Therms
Direct Install Measures	Shower Head	755	1,156	24,031
	Kitchen Aerator	201	342	1,889
	Bathroom Aerator	888	2,146	2,097
	Hot Water Temperature Setback	341	360	2,304
	Pipe Insulation	618	465	3,829
	Programmable Thermostat	83	91	4,793
	Programmable Thermostat Education	349	349	18,357
Subtotal		2,981	4,909	57,301
Weatherization Measures	Attic Insulation	1,353	1,353	177,049
	Wall Insulation	31	31	7,384
	Floor Insulation	401	401	10,752
	Duct Insulation & Sealing	21	21	1,199
	Air Sealing	1,358	1,358	145,660
Subtotal		1,366	3,164	342,044
Total			8,051	396,430

Source: Navigant analysis of GPY3 tracking data. Includes GPY2 true-up participants.
**Installed units for pipe insulation is reported per linear foot*

3.2 Program Volumetric Findings

The GPY3 HES program had 2,981 total participants. Table 3-2 provides an overview of gas measure participation during GPY3. Overall program participation and weatherization jobs increased about 7.5% and 64% respectively from GPY2 levels.

Table 3-2. GPY3 Primary Participation Detail

Participation	Nicor Gas
Participants (Assessments)	2,981
Direct Install Measures	4,673
Low-Flow Showerheads	1,156
Kitchen and Bathroom Faucet Aerators	2,488
Hot Water Temperature Setback	360
Pipe Insulation (Linear Feet)	465
Weatherization Participants	1,366

Source: Navigant analysis of GPY3 tracking data. Includes GPY2 true-up participants.

3.3 Gross Program Impact Parameter Estimates

Navigant calculated verified gross savings from the GPY3 HES program using algorithms and parameters defined in the Illinois TRM version 2.0. Navigant used the Illinois TRM for all direct install measures.

Table 3-3. Verified Gross Savings Parameters

Measure	Deemed Input Parameter Source
Shower Head	Illinois TRM v2.0 - Section 5.4.6
Kitchen Aerator	Illinois TRM v2.0 - Section 5.4.5
Bathroom Aerator	
Hot Water Temperature Setback	Illinois TRM v2.0 - Section 5.4.7
Pipe Insulation	Illinois TRM v2.0 - Section 5.4.1
Programmable Thermostat	Illinois TRM v2.0 - Section 5.3.11
Programmable Thermostat Education	Illinois TRM v2.0 - Section 5.3.11

The GPY3 Nicor Gas tracking database provided all input parameters necessary to calculate savings using the Illinois TRM v2.0 for all measure installations.

Navigant performed a thorough literature review in GYP1/EPY4 to compare evaluated savings values for projects with similar weatherization offerings as the HES program. This was done in order to vet the ex-ante savings for weatherization measures in the HES program. Based on the findings from the literature review, Navigant determined that the savings values from CSG's EnergyMeasure® HOME (EM HOME) model compares favorably with evaluated savings for similar programs and climates. Navigant accepts CSG's weatherization measure savings assumptions for GPY3. Further detail on Navigant's weatherization literature review can be found in the GY1/EP4 HES Report.[7]

3.4 Development of the Verified Gross Realization Rate

Navigant performed a detailed engineering review of the ex-ante savings assumptions provided by CSG and developed verified gross therm savings values for all of the direct install and weatherization measures. Table 3-4 provides an overview of updates to the ex-ante formulas and assumptions.

[7] Energy Efficiency ComEd Plan Year 4, Nicor Gas Plan Year 1 (6/1/2011-5/31/2012) Evaluation Report: Home Energy Savings Program. May 2013.

Table 3-4. GPY3 Gross Measure Savings Methodology

Measure	Navigant Update
Shower Head	No adjustments to ex-ante formulas and assumptions were made.
Kitchen and Bathroom Aerators	A small number of projects had blank values in the tracking system for variables in the gross savings algorithm. In those instances, default values from the IL TRM v2.0 were used. This resulted in a slightly higher realization rate. No other adjustments to ex-ante formulas and assumptions were made.
Hot Water Temperature Setback	No adjustments to ex-ante formulas and assumptions were made.
Pipe Insulation	Navigant determined that pipe diameter in inches was being used instead of the pipe circumference in feet. This directly affected the verified gross savings for this measure and resulted in a realization rate of 0.30.
Programmable Thermostat	A small number of projects had blank values in the tracking system for variables in the gross savings algorithm. In those instances, default values from the IL TRM v2.0 were used. This resulted in a slightly lower realization rate. No other adjustments to ex-ante formulas and assumptions were made.
Programmable Thermostat Education	No adjustments to ex-ante formulas and assumptions were made.
Weatherization Measures	A small number of projects had blank values in the tracking system for variables in the gross savings algorithm. In those instances, default values from the IL TRM v2.0 were used. This resulted in a slightly higher realization rate. No other adjustments to ex-ante formulas and assumptions were made..

The verified gross realization rate is the ratio of verified gross savings to ex-ante gross savings from the program tracking system.

As shown in Table 3-5 below, the GPY3 verified savings was 396,276 therms, resulting in verified gross realization rates of 100%.

3.5 Verified Gross Program Impact Results

This section details the results of Navigant's verified gross impact analysis for the HES program. Navigant calculated verified gross savings with algorithms and assumptions based on the Illinois TRM version 2.0. This includes applying the TRM-specified in-service rates for direct install measures. Verified gross savings for weatherization measures all use an in-service rate of 1, where CSG's QA/QC findings inform the installation rates, and a persistence rate of 1 is assumed since weatherization measure uninstallation is unlikely. Table 3-5 summarizes the verified gross results by measure type.

Table 3-5. GPY3 Verified Gross Impact Savings Estimates by Measure Type

Measure		Therms	Therms Realization Rate
Direct Install Measures	Shower Head	24,031	100%
	Kitchen Aerator	1,889	102%
	Bathroom Aerator	2,097	100%
	Hot Water Temperature Setback	2,304	100%
	Pipe Insulation	1,142	30%
	Programmable Thermostat	4,793	91%
	Programmable Thermostat Education	18,357	100%
Subtotal		54,232	95%
Weatherization Measures	Attic Insulation	177,049	100%
	Wall Insulation	7,384	100%
	Floor Insulation (Other)	10,752	100%
	Duct Insulation & Sealing	1,199	100%
	Air Sealing	145,660	102%
Subtotal		342,044	101%
Total	Total Savings	396,276	100%

Source: Navigant analysis of GPY3 tracking data. GPY2 true-up participants.

The weatherization measures of attic insulation and air sealing accounted for 82 percent all gas savings. Of the direct install measures, low-flow showerheads accounted for six percent of the total savings and programmable thermostat education accounted for five percent of the total savings. Overall, weatherization measures contributed 86 percent of the savings and direct-install measures contributed 14 percent of the savings.

4. Net Impact Evaluation

This section details the results of Navigant's verified net impact analysis for the HES program, which includes adjustments for both free ridership and spillover in the net-to-gross analysis.

Program Participation

Finding 5. The GPY3 HES program saw participation of 2,981 total home energy assessments with weatherization jobs completed at 1,366 residences. This is slightly more than GPY2 participation, with an increase in total participants of 7.5% and an increase in weatherization jobs of 64%, likely due to the increased amount of the rebate ($1,750) for a portion of the program year.

Recommendation 5. If Nicor's goal is to increase participation, Navigant recommend increasing marketing so that more potential participants are aware of the program.

4.1 Verified Net Savings

Navigant used the NTGR values shown in Table 4-1 to calculate verified net savings.

Table 4-1. GPY3 Nicor Gas Deemed NTGR Values

Parameter	Value	Data Source	Deemed, Evaluated, or Research Findings
NTGR – Nicor Gas All Measures	0.86	SAG Spreadsheet †	Deemed

† http://ilsagfiles.org/SAG_files/Meeting_Materials/2013/August%205-6,%202013%20Meeting/Nicor_Gas_NTG_Results_and_Application_GPY1-3.pdf

Navigant applied the NTGR values above to verified gross measure savings to determine measure-specific verified net program savings, shown in Table 4-2.

Table 4-2. GPY3 Verified Net Impact Savings Estimates by Measure Type

Measure		Therms
Direct Install Measures	Shower Head	20,665
	Kitchen Aerator	1,654
	Bathroom Aerator	1,797
	Hot Water Temperature Setback	1,981
	Pipe Insulation	983
	Programmable Thermostat	3,759
	Programmable Thermostat Education	15,801
Subtotal		46,639
Weatherization Measures	Attic Insulation	152,263
	Wall Insulation	6,350
	Floor Insulation (Other)	9,246
	Duct Insulation & Sealing	1,031
	Air Sealing	125,268
Subtotal		294,158
Total	Total Savings	340,797

Source: Navigant analysis of GPY3 tracking data. GPY2 true-up participants.

All told, GPY3 program net impacts, using evaluated parameters, are 340,797 therms. The combined effect of the gross impact realization rates and net-to-gross ratios on the HES program results in verified net savings that are 86% of ex-ante therms savings.

5. Process Evaluation

The GPY3 process evaluation activities included an implementer interview to determine any changes in the program. For a portion of the program year, a higher incentive was offered for weatherization measures which likely contributed to higher conversion rates for those measures. The conversion rate increased from 26% in GPY2 to 39% in GPY3, and the average therm savings per household in GPY3 increased 30% over GPY2, as shown in Table 5-1 below.

Table 5-1. Conversion Rate and Savings Comparison GPY1-GPY3

	GPY1	GPY2	GPY3
Total Assessment-only and Full-Participants	1,080	2,760	2,636
Total Full Participants	315	730	1,018
Conversion Rate	29%	26%	39%
Avg therm Savings/Household	102	99	129
Therms % Difference Year over Year		-2%	+30%

Source: Navigant analysis of GPY1, GPY2, and GPY3 tracking data.

6. Conclusions and Recommendations

Key impact and process findings and recommendations are outlined below.

Program Savings Achievement

Finding 1. The GPY3 program set to achieve net savings of 854,920 therms. Navigant reports verified gross savings of 396,276 therms and verified net savings of 340,797 therms. As reported to Navigant by the program manager, one of the consequences of changing the implementation contractor was that the planned amount of participation was not fully reached, partially due to the reduction of marketing and outreach prior to the implementation contractor change before the end of the program year.

Gross Realization Rates

Finding 2. Navigant reports overall gross realization rates of 100% for therms, however realization rates for pipe insulation were 30%, as detailed in Section 3.4.

Recommendation 2. Navigant recommends updating ex-ante calculations for pipe insulation based on the findings presented in Section 3.4.

Net-to-Gross Rate

Finding 3. Navigant used the SAG deemed program NTGR of 0.86 to calculate the overall verified net savings.

Tracking System Review

Finding 4. The evaluation team found that though it is possible to identify full-participants from assessment-only participants in the tracking database judging by their measure installations, there is no unique field clearly designating full-participants from assessment-only participants.

Recommendation 4. Navigant recommends adding a field in the tracking database for participant type to distinguish full-participants from assessment-only participants. This will help ensure clear differentiation between the two participants groups in the tracking data for analysis and will simplify tracking the program's conversion rate (share of assessment participants who elect weatherization), which is key to obtaining deeper therm savings per participant.

Program Participation

Finding 5. The GPY3 HES program saw participation of 2,981 total customers with weatherization jobs completed at 1,366 residences. This is slightly more than GPY2 participation, with an increase in total participants of 7.5% and an increase in weatherization jobs of 64%, likely due to the increased amount of the rebate ($1,750) for a portion of the program year.

Recommendation 5. If Nicor's goal is to increase participation, Navigant recommend increasing marketing so that more potential participants are aware of the program.

Appendix A. GPY2 True-Up

True-up of GPY2 Verified Gross and Net Impact Savings

The HES implementation contractor had not accounted for 14 participants that came through the program through different channels in GPY2. These participants only had weatherization measures.

The numbers have since been corrected in Nicor Gas' database. However, the correction was made after the program's data had been submitted to Navigant, and it was not corrected in the Nicor Gas HES Program GPY2 Evaluation Report. The true-up calculation is reported below.

Table 6-1. True-up of the GPY2 HES Program Results for Weatherization Measures

	Ex Ante Gross Savings (therms)	Verified Gross Realization Rate	Verified Gross Savings (therms)	NTG	Verified Net Savings (therms)
As Reported in GPY2	0	1.00	0	0.86	0
Corrected for GPY2	4,281	1.00	4,281	0.86	3,682
GPY2 True-up	4,281		4,281		3,682

Source: Utility tracking data and Navigant analysis.

The result of the true-up increased verified net therms by 3,855 therms for the GPY2 HES Program.

The HES implementation contractor had also misapplied savings from electric water heated pipe insulation as gas savings for 33 participants in GPY2. Below is the true-up calculation for that measure.

Table 6-2. True-up of the GPY2 HES Program Results for Pipe Insulation

	Ex Ante Gross Savings (therms)	Verified Gross Realization Rate	Verified Gross Savings (therms)	NTG	Verified Net Savings (therms)
As Reported in GPY2	202	1.00	202	0.86	174
Corrected for GPY2	0	1.00	0	0.86	0
GPY2 True-up	(202)		(202)		(174)

Source: Utility tracking data and Navigant analysis.

The result of the true-up reduced verified net therms by 174 therms for the GPY2 HES Program.