



To: Peoples Gas and North Shore Gas

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Christopher Frye, Charles Ampong, Laura Agapay-Read, Stu Slote; Guidehouse

From: Mike Frischmann; EcoMetric
Jackson Lines; Guidehouse

Date: August 30, 2023

Re: PGL NSG Multi-family Program Partner Trade Ally (PTA) CY2022 Spillover
Research Results - Final

1. Executive Summary

The Peoples Gas and North Shore Gas (PGL NSG) Multi-Family Program net-to-gross (NTG) research asked both free ridership (FR) and spillover (SO) questions in two surveys – one gathering the property manager perspective, and the other gathering the trade ally (TA) perspective. As the property manager response rate was insufficient to support a statistically significant result, Guidehouse will continue the property managers survey in Fall 2023 with the goal of increasing response rates.

This memo focuses on the SO results from the TA survey. Guidehouse used TRM v11.0¹ to analyze TA spillover. The TA perspective on participant FR, which Guidehouse included in the TA survey, will be combined with the updated property manager FR and SO survey results in the fall of 2023 to develop a complete NTG update for the PGL NSG Multi-Family Program. Table 1 summarizes the PGL NSG Multi-Family program 2022 SO research findings for the Partner Trade Ally (PTA) path.

¹ Illinois Statewide Technical Reference Manual for Energy Efficiency Version 11.0.



Table 1. SO Research Results for Multi-Family PTA Path

PTA TA's with SO	TA 2022 PTA therms	TA SO therms	TA Spillover Rate
2	1,102,387	10,017	0.01

Source: Evaluation team research

Note: TA SO occurred for TA's where the program had influence, but high efficiency equipment they installed did not receive an incentive. These SO savings are analogous to non-participant SO savings and were treated as an adder to existing FR and participant SO values.

2. Free Ridership and Spillover Survey Disposition

The property manager and spillover surveys were fielded by Guidehouse through Qualtrics and shared with participants via email. Both surveys were fielded in the second quarter of 2023. The samples were developed from the population of PGL NSG property managers and trade allies that participated in the program's PTA path. The property manager FR sample included all projects completed between October 2022 through March 2023, while the property manager SO was assessed based on participants from March 2021 through March 2022. The TA population included nine TA's who completed projects during CY2022. Table 2 presents dispositions for each survey.

Table 2. Property Manager and TA Survey Disposition

Category	Sample of Unique Participants	Target Completes	Actual Completes	Response Rate	Share of Population Savings Represented by Respondents
Property Manager	163	49	12	7%	1%
Trade Ally	9	5	8	89%	90%

Source: Evaluation team research

The low response rate and low share of population savings for property managers would not have met required survey responses needed to achieve 80/20 confidence and precision for FR estimates. Guidehouse applied several strategies to increase response rates, including facilitating communication with prospective respondents through the implementation contractor in addition to higher incentives relative to other populations. Given the low response rate, Guidehouse determined the best path forward is to continue the property manager survey in Fall 2023 to gather additional responses to meet 90/10 confidence and precision levels.

Since TA FR is a component of the overall NTG ratio and will be weighted along with the property manager FR value, Guidehouse will present the TA FR results along with the updated property manager FR results in 2024. Since the TA survey achieved a high response rate, Guidehouse did analyze the TA SO results from the surveys, the details of which make up the remainder of this memo.

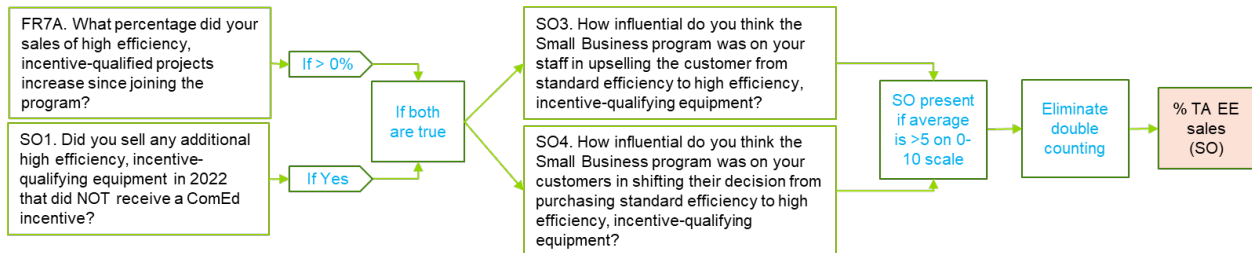
3. Spillover Determination

Guidehouse leveraged the TA survey responses to determine the TA SO for the PTA path. The following sections describe the protocols, methods, and results of that effort.

3.1 Spillover Estimation

The evaluation team quantified the trade ally’s perspective of participant spillover using the methodologies laid out in IL TRM v11.0. The team assessed trade ally spillover by estimating the increase in sales of high efficiency lighting measures that are influenced by the program but not rebated, as Figure 1 shows.

Figure 1. Trade Ally Spillover Protocol



Source: Guidehouse diagram of Trade Ally Spillover Research from IL TRM v 11.0

The process to calculate spillover from the trade ally perspective includes the following steps (as defined in the TRM v11.0, Volume 4, Section 5.2.1):

1. Calculate the percentage of an individual trade ally’s high efficiency equipment sales that received an incentive.

$$\frac{\% \text{ of TA's High Efficiency Sales that Received Incentive}}{\% \text{ High efficiency that DID receive a program incentive} + \% \text{ High efficiency that did NOT receive a program incentive}} = \frac{\% \text{ High efficiency that DID receive a program incentive}}{\% \text{ High efficiency that DID receive a program incentive} + \% \text{ High efficiency that did NOT receive a program incentive}}$$

2. Calculate the energy savings of the high efficiency equipment sales that did not receive an incentive.

$$\text{Spillover Savings} = \frac{\text{Savings from Program Database}}{\% \text{ of TA's High Efficiency Sales that Received Incentive}} - \frac{\text{Savings from Program Database}}{\% \text{ of TA's High Efficiency Sales that Received Incentive}} * \text{Size Adjustment (if applicable)}$$

Guidehouse believes the TRM algorithm (#2) above needs a parenthesis added to the subtraction part, after which the adjustment factor is multiplied. Guidehouse believes the algorithm was intended to be as follows, as was used in this research analysis. Therefore, Guidehouse recommends the following to the SAG for consideration.

$$\begin{aligned}
 & \text{Savings of Non – Incented High Efficiency Equipment} \\
 & = \left(\frac{\text{Savings from Program Database}}{\% \text{ of TA's High Efficiency Equipment that Received Incentive}} \right) - \text{Savings from Program Database} \Big) * \text{Size Adjustment}
 \end{aligned}$$

3. Develop the spillover ratio for sampled trade allies by summing individual trade ally spillover savings and dividing that total by Multi-Family Program PTA path tracked savings achieved by the sampled trade allies.

Historically, Guidehouse has recommended NTG ratios at the path level for the Multi-Family Program. Consistent with that approach, the SO rate determined using the preceding steps outlined should be applied only to the PTA path.

3.2 Trade Ally Spillover Results

Of the eight trade allies included in the trade ally analysis, two reported selling non-program incented high efficiency measures. Both TA’s passed all attribution screening criteria, and the estimated gross energy savings from these non-rebated spillover measures was 10,017 therms. The gross energy savings from the nine trade allies who responded to the survey was 992,148 therms which resulted in a trade ally spillover rate of 1.0%. Table 3 summarizes the trade ally spillover results.

Table 3. TA Spillover Research Results

Survey Respondents	TA's with SO	TA 2022 PTA therms	TA SO therms	TA Spillover Rate
8	2	992,148	10,017	0.01

Source: Evaluation team research

4. Final NTG Results and Recommendations

Table 4 shows the overall final recommended NTG. Guidehouse added the resulting TA SO from this research to the most recent researched Multi-Family Program NTG values from CY2018². The participant SO research from 2018 included two different measures, weatherstripping and programmable thermostats. The TA’s from Guidehouse’s new research did not install either of those measures through their participation in the program. Therefore, Guidehouse finds no overlap or double counting of SO from the participant and TA SO results.

Table 4. Recommended PTA Path NTG

2018 FR	2018 Participant SO	2022 TA SO	PTA NTG
0.14	0.01	0.01	0.88

Source: Evaluation team research

² Net-to-Gross Research Results for the Market Rate Multi-Family Program for Nicor Gas, Peoples Gas, and North Shore Gas GPY6 and CY2018.

4.1 Multi-family Program NTG History

Table 5. Multi-Family Program NTG History

Multi-family Program	
GPY1	<p>Direct Install Program NTG: 0.90 Free ridership 0.10 Spillover 0.00 Method and Source: Evaluation research consisting of participating GPY1 customer self-reports (tenants and property decision-makers). NTG based on CATI telephone survey with participating decision-makers (21 property managers for Peoples Gas and North Shore Gas interviewed from a GPY1 population of 343). Program was delivered an assessment and direct installation offering.</p>
GPY2	<p>Peoples Gas: Deemed NTG 0.90; Free ridership 0.10; Participant Spillover: 0.00 North Shore Gas: Deemed NTG 0.90; Free ridership 0.10; Participant Spillover: 0.00 Method and Source: Deemed by SAG consensus from GPY1 evaluation research.</p>
GPY3	<p>Peoples Gas: Deemed NTG 0.90; Free ridership 0.10; Participant Spillover: 0.00 North Shore Gas: Deemed NTG 0.90; Free ridership 0.10; Participant Spillover: 0.00 Method and Source: Deemed by SAG consensus from GPY1 evaluation research.</p>
GPY4	<p>Peoples Gas and North Shore Gas:</p> <p>In-Unit Direct Installation: NTG 0.90; Free ridership 0.10; Spillover: 0.00 Method and Source: No new research. Value from GPY1 evaluation research.</p> <p>Prescriptive Rebates: NTG 0.84 (PGL); 0.90 (NSG) Method and Source: Based on a weighting of the C&I Prescriptive GPY4 NTG value (0.58) and Multifamily DI NTG (0.90) to reflect decision-makers, measure types, and decision scenario indicated by rate classification.</p> <p>TAPI Incentives: NTG 0.99 Method and Source: Based on GPY1 evaluation research of the joint utility Small Business Energy Savings Program.</p> <p>Custom Incentives: NTG 0.68 Method and Source: Based on the C&I Custom Rebate Program GPY4 NTG value.</p> <p>Gas Optimization: NTG 1.02 Method and Source: Based on GPY1 evaluation research of the joint utility Retro-Commissioning Program.</p>

Multi-family Program

GPY5	<p>In-Unit Direct Installation: NTG 0.92; Free ridership 0.10; Spillover: 0.02 Method and Source: Free-ridership value from GPY4. Spillover value from Nicor Gas CATI telephone survey with participating GPY3 decision-makers (74 property managers).</p> <p>Prescriptive Rebates: NTG 0.87 (PGL); 0.92 (NSG) Method and Source: Based on a weighting of the C&I Prescriptive GPY5 NTG value (0.63) and Multifamily DI NTG (0.92) to reflect decision-makers, measure types, and decision scenario indicated by rate classification.</p> <p>TAPI Incentives: NTG 0.99 Method and Source: No new research. Value from GPY4.</p> <p>Custom Incentives: NTG 0.78 Method and Source: Based on the C&I Custom Rebate Program GPY5 NTG value.</p> <p>Gas Optimization: NTG 1.02 Method and Source: No new research. Value from GPY4.</p>
GPY6	<p>In-Unit Direct Installation: NTG 0.92; Free ridership 0.10; Spillover: 0.02 Method and Source: Free-ridership value from GPY4. Spillover value from Nicor Gas CATI telephone survey with participating GPY3 decision-makers (74 property managers). Comparable research will be conducted with GPY5 PGL and NSG property owners/managers to update these values.</p> <p>Prescriptive Rebates and Partner Trade Ally Projects: NTG 0.92 (PGL); 0.92 (NSG) Method and Source: These types of projects have not been directly researched in Multi-Family, so proxy values from other programs have been used and weighted in previous years. When GPY4 NTG research updates in C&I Prescriptive and with Small Business trade allies are applied to the Multi-Family NTG values, the Multi-Family values fall in a range of 0.90 to 0.93. Differences in that range are not significant. We recommend a single value of 0.92 until research is completed with GPY5 PGL and NSG property owners/managers to establish values for these projects and decision makers.</p> <p>Custom Incentives: NTG 0.78 Method and Source: Based on GPY2 custom project research that included multi-family decision-makers. The GPY4 C&I Custom Program NTG research did not include multi-family decision makers.</p> <p>Gas Optimization: NTG 1.02 Method and Source: No new research. Value from GPY4.</p>

Multi-family Program

2018 (GPY7) **In-Unit Direct Installation (except faucet aerators): NTG 0.85; Free ridership 0.18; Participant Spillover: 0.03; Non-Participant Spillover 0.00.**

In-Unit Direct Installation Faucet Aerators: NTG 1.03; Free ridership 0.00; Participant Spillover: 0.03; Non-Participant Spillover 0.00.

Prescriptive Rebates: NTG 0.76; Free ridership 0.27; Participant Spillover: 0.03; Non-Participant Spillover 0.00.

Partner Trade Ally Projects: NTG 0.88; Free ridership 0.15; Participant Spillover: 0.03; Non-Participant Spillover 0.00.

Custom Incentives: NTG 0.72; Free ridership 0.31; Participant Spillover: 0.03; Non-Participant Spillover 0.00.

Comprehensive Project Roll-up Average: NTG 0.84; Free ridership 0.19; Participant Spillover: 0.03; Non-Participant Spillover 0.00.

Method: Free-ridership and Participant Spillover values from GPY5 evaluation research conducted by CATI telephone survey with GPY5 decision-makers (59 property managers or owners). Interviews with 11 trade allies did not find evidence of PSO or NPSO. The GPY5 research applied the TRM v6.0 NTG algorithms.

Due to the small population of MF custom projects, the GPY5 Multifamily research completed three Multi-Family Custom interviews, with a FR = 0.31, but did not achieve a 90/10 result. The GPY4 C&I Custom Rebate Program FR estimate was 0.31, and 0.31 is judged to be the best available value. The GPY4 research used TRM v5.0 NTG algorithms, and GPY5 research used TRM v6.0 NTG algorithms.

TRM version 6.0 specifies that the free ridership for faucet aerators be set at zero when estimating gross savings using the TRM specified baseline average water flow rate.

The comprehensive roll-up NTG value covers Prescriptive, PTA, and Custom MF participants. The roll-up value may be used instead of the path-level NTGs.

Gas Optimization: NTG 1.02

Method and Source: No new research. Retained value from GPY6.

Multi-family Program

2019

Assessment/Direct Install (all measures except faucet aerators and showerheads when using TRM specified baseline average water flow rates) NTG: 0.85; Free Ridership: 0.18; Participant Spillover: 0.03

Method: FR, PSO, NPSO (PGL & NSG EM&V GPY5; TRM v6.0 algorithms). Participant spillover was not estimated by program path; the 0.03 value represents the overall MF program based on 59 interviews conducted in the GPY5 MF NTG research. Trade ally interviews did not find PSO or NPSO.

Assessment/Direct Install (faucet aerators and showerheads when using TRM specific baseline average water flow rates) NTG: 1.03

TRM version 7.0 specifies that the free ridership for faucet aerators and showerheads be set at zero when estimating gross savings using the TRM specified baseline average water flow rate. PSO =0.03 based on 59 interviews conducted in the GPY5 MF NTG research. Trade ally interviews did not find PSO or NPSO.

Multi-Family Comprehensive Prescriptive Rebates

NTG: 0.76; Free Ridership: 0.27; Participant Spillover: 0.03

Method: FR, PSO, NPSO (PGL & NSG EM&V GPY5; TRM v6.0 algorithms)

Multi-Family Comprehensive TAPI Incentives/Partner Trade Allies

NTG: 0.88; Free Ridership 0.15; Participant Spillover: 0.03.

Method: FR, PSO, NPSO (PGL & NSG EM&V GPY5; TRM v6.0 algorithms)

Multi-Family Comprehensive Custom Incentives

NTG: 0.72; Free Ridership: 0.31; Participant Spillover: 0.03.

Method: FR (IL EM&V GPY4 for C&I Custom Program and IL EM&V GPY5 for MF Program), PSO, NPSO (PGL & NSG EM&V GPY5 for MF program). GPY4 research used TRM v5.0 algorithms, GPY5 research used TRM v6.0 algorithms

Multi-Family Comprehensive Roll-up of Prescriptive, PTA, and Custom

NTG: 0.84; Free Ridership 0.19; Participant Spillover: 0.03

Method: FR, PSO, NPSO (PGL & NSG EM&V GPY5; TRM v6.0 algorithms). The roll-up NTG value covers Prescriptive, PTA, and Custom MF participants. The roll-up value may be used instead of the path-level NTGs.

Multi-Family Comprehensive Gas Optimization

NTG: 0.91; Free Ridership: 0.14; Participant Spillover 0.05

Method: FR and PSO: 2018 Survey of 7 GPY6 participants. Memo: Net-to-Gross Research Results from GPY6 for the Gas Optimization Study Offering, Navigant, 8/29/18, revised 9/13/18. The Gas Optimization offering has three paths: building heating, process, and steam plant. Multi-family buildings participate through the building heating path. Multi-Family specific GOS FR and PSO values are preferred if available. The GPY6 population did not have multi-family participants, and the two building heating respondents in the sample of seven were not compelling as MF representatives so Navigant used the overall program-level FR and PSO values.

Multi-family Program

2020

Direct Install (DI) In-Unit and Common Area (all measures except in-unit DI faucet aerators and in-unit DI showerheads) NTG: 0.96; Free Ridership: 0.05; Participant Spillover: 0.01; NPSO = 0.0

Method: Navigant research with CY2018 participants for FR and GPY6 participants for PSO. The free ridership results meet a 90% confidence interval within 5% precision, based on 15 respondents receiving pipe insulation or programmable thermostats from a population of 95 unique direct installation participants (property owners and managers) from 2018 from Nicor Gas, Peoples Gas, and North Shore Gas, excluding accounts that only installed showerheads and aerators. Participant Spillover from survey of 65 participants from a sample of Nicor Gas, Peoples Gas, and North Shore Gas GPY6 multi-family program participants. NPSO (PGL & NSG EM&V GPY5; TRM v6.0 algorithms). Trade ally interviews did not find NPSO.

Direct Install In-Unit (faucet aerators and showerheads when using TRM specific baseline average water flow rates) NTG: 1.01; Free Ridership: 0.0; Participant Spillover: 0.01; NPSO = 0.0

TRM version 8.0 specifies that the free ridership for aerators and showerheads be set at zero when estimating gross savings using the Residential Section of the TRM specified baseline average water flow rate. Participant Spillover from survey of 65 participants from a sample of Nicor Gas, Peoples Gas, and North Shore Gas GPY6 multi-family program participants. NPSO (PGL & NSG EM&V GPY5; TRM v6.0 algorithms). Trade ally interviews did not find NPSO.

Multi-Family Comprehensive Roll-up of Prescriptive, PTA, and Custom NTG; 0.87; Free Ridership 0.14; Participant Spillover: 0.01; NPSO = 0.0

Method: The roll-up NTG value covers Prescriptive, Partner Trade Ally (PTA), and Custom MF participants. Free ridership from Navigant analysis of 23 participant interviews conducted in 2019 of 2018 MF Program participants (C/P 90/9). Sample size not large enough for path-based estimates. Participant Spillover from survey of 65 participants from a sample of Nicor Gas, Peoples Gas, and North Shore Gas GPY6 multi-family program participants. NPSO (PGL & NSG EM&V GPY5; TRM v6.0 algorithms). Trade ally interviews did not find NPSO.

Multi-Family Comprehensive Gas Optimization

NTG: 0.91; Free Ridership: 0.14; Participant Spillover 0.05

Method: FR and PSO: 2018 Survey of 7 GPY6 participants. Memo: Net-to-Gross Research Results from GPY6 for the Gas Optimization Study Offering, Navigant, 8/29/18, revised 9/13/18. The Gas Optimization offering has three paths: building heating, process, and steam plant. Multi-family buildings participate through the building heating path. Multi-Family specific GOS FR and PSO values are preferred if available. The GPY6 population did not have multi-family participants, and the two building heating respondents in the sample of seven were not compelling as MF representatives so Navigant used the overall program-level FR and PSO values.

Multi-family Program

2021

Direct Install (DI) In-Unit and Common Area (all measures except in-unit DI faucet aerators and in-unit DI showerheads) NTG: 0.96; Free Ridership: 0.05; Participant Spillover: 0.01; NPSO = 0.0

Method: Navigant research with CY2018 participants for FR and GPY6 participants for PSO. The free ridership results meet a 90% confidence interval within 5% precision, based on 15 respondents receiving pipe insulation or programmable thermostats from a population of 95 unique direct installation participants (property owners and managers) from 2018 from Nicor Gas, Peoples Gas, and North Shore Gas, excluding accounts that only installed showerheads and aerators. Participant Spillover from survey of 65 participants from a sample of Nicor Gas, Peoples Gas, and North Shore Gas GPY6 multi-family program participants. NPSO (PGL & NSG EM&V GPY5; TRM v6.0 algorithms). Trade ally interviews did not find NPSO.

Direct Install In-Unit (faucet aerators and showerheads when meeting TRM specifications for zero free ridership treatment) NTG: 1.01; Free Ridership: 0.0; Participant Spillover: 0.01; NPSO = 0.0

The IL TRM specifies that the free ridership for showerheads and aerators be set at zero when estimating gross savings using a baseline average flow rate that includes the effect of existing low flow fixtures. Participant Spillover from survey of 65 participants from a sample of Nicor Gas, Peoples Gas, and North Shore Gas GPY6 multi-family program participants. NPSO (PGL & NSG EM&V GPY5; TRM v6.0 algorithms). Trade ally interviews did not find NPSO.

Multi-Family Comprehensive Roll-up of Prescriptive, PTA, and Custom NTG; 0.87; Free Ridership 0.14; Participant Spillover: 0.01; NPSO = 0.0

Method: The roll-up NTG value covers Prescriptive, Partner Trade Ally (PTA), and Custom MF participants. Free ridership from Navigant analysis of 23 participant interviews conducted in 2019 of 2018 MF Program participants (C/P 90/9). Sample size not large enough for path-based estimates. Participant Spillover from survey of 65 participants from a sample of Nicor Gas, Peoples Gas, and North Shore Gas GPY6 multi-family program participants. NPSO (PGL & NSG EM&V GPY5; TRM v6.0 algorithms). Trade ally interviews did not find NPSO.

Multi-Family Comprehensive Gas Optimization

NTG: 0.91; Free Ridership: 0.14; Participant Spillover 0.05

Method: FR and PSO: 2018 Survey of 7 GPY6 participants. Memo: Net-to-Gross Research Results from GPY6 for the Gas Optimization Study Offering, Navigant, 8/29/18, revised 9/13/18. The Gas Optimization offering has three paths: building heating, process, and steam plant. Multi-family buildings participate through the building heating path. Multi-Family specific GOS FR and PSO values are preferred if available. The GPY6 population did not have multi-family participants, and the two building heating respondents in the sample of seven were not compelling as MF representatives so Navigant used the overall program-level FR and PSO values.

Multi-family Program

2022

Direct Install (DI) In-Unit and Common Area (all measures except in-unit DI faucet aerators and in-unit DI showerheads) NTG: 0.96; Free Ridership: 0.05; Participant Spillover: 0.01; NPSO = 0.0

Method: Navigant research with CY2018 participants for FR and GPY6 participants for PSO. The free ridership results meet a 90% confidence interval within 5% precision, based on 15 respondents receiving pipe insulation or programmable thermostats from a population of 95 unique direct installation participants (property owners and managers) from 2018 from Nicor Gas, Peoples Gas, and North Shore Gas, excluding accounts that only installed showerheads and aerators. Participant Spillover from survey of 65 participants from a sample of Nicor Gas, Peoples Gas, and North Shore Gas GPY6 multi-family program participants. NPSO (PGL & NSG EM&V GPY5; TRM v6.0 algorithms). Trade ally interviews did not find NPSO.

Direct Install In-Unit (faucet aerators and showerheads when meeting TRM specifications for zero free ridership treatment) NTG: 1.01; Free Ridership: 0.0; Participant Spillover: 0.01; NPSO = 0.0

The IL TRM specifies that the free ridership for showerheads and aerators be set at zero when estimating gross savings using a baseline average flow rate that includes the effect of existing low flow fixtures. Participant Spillover from survey of 65 participants from a sample of Nicor Gas, Peoples Gas, and North Shore Gas GPY6 multi-family program participants. NPSO (PGL & NSG EM&V GPY5; TRM v6.0 algorithms). Trade ally interviews did not find NPSO.

Multi-Family Comprehensive Roll-up of Prescriptive, PTA, and Custom NTG; 0.87; Free Ridership 0.14; Participant Spillover: 0.01; NPSO = 0.0

Method: The roll-up NTG value covers Prescriptive, Partner Trade Ally (PTA), and Custom MF participants. Free ridership from Navigant analysis of 23 participant interviews conducted in 2019 of 2018 MF Program participants (C/P 90/9). Sample size not large enough for path-based estimates. Participant Spillover from survey of 65 participants from a sample of Nicor Gas, Peoples Gas, and North Shore Gas GPY6 multi-family program participants. NPSO (PGL & NSG EM&V GPY5; TRM v6.0 algorithms). Trade ally interviews did not find NPSO.

Multi-Family Comprehensive Gas Optimization

NTG: 0.94; Free Ridership: 0.06; Participant Spillover: 0.00.

(Guidehouse Research, 2021) Evaluation research consisting of 2019 and 2020 participating customers. Participant free-ridership of 6% and participant spillover of 0% from 5 participating customer NTG interviews completed from a population of 15 contacts from 11 accounts (representing 79% of population therm savings). Respondents did not include large multi-family buildings but large hotels were represented in the respondents, which have similar characteristics.

Multi-family Program

Direct Install (DI) In-Unit and Common Area (all measures except in-unit DI faucet aerators and in-unit DI showerheads) NTG: 0.96; Free Ridership: 0.05; Participant Spillover: 0.01; NPSO = 0.0

Method: Navigant research with CY2018 participants for FR and GPY6 participants for PSO. The free ridership results meet a 90% confidence interval within 5% precision, based on 15 respondents receiving pipe insulation or programmable thermostats from a population of 95 unique direct installation participants (property owners and managers) from 2018 from Nicor Gas, Peoples Gas, and North Shore Gas, excluding accounts that only installed showerheads and aerators. Participant Spillover from survey of 65 participants from a sample of Nicor Gas, Peoples Gas, and North Shore Gas GPY6 multi-family program participants. NPSO (PGL & NSG EM&V GPY5; TRM v6.0 algorithms). Trade ally interviews did not find NPSO.

Direct Install In-Unit (faucet aerators and showerheads when meeting TRM specifications for zero free ridership treatment) NTG: 1.01; Free Ridership: 0.0; Participant Spillover: 0.01; NPSO = 0.0

The IL TRM specifies that the free ridership for showerheads and aerators be set at zero when estimating gross savings using a baseline average flow rate that includes the effect of existing low flow fixtures. Participant Spillover from survey of 65 participants from a sample of Nicor Gas, Peoples Gas, and North Shore Gas GPY6 multi-family program participants. NPSO (PGL & NSG EM&V GPY5; TRM v6.0 algorithms). Trade ally interviews did not find NPSO.

CY2024

Multi-Family Comprehensive Roll-up of Prescriptive, PTA, and Custom NTG; 0.87; Free Ridership 0.14; Participant Spillover: 0.01; NPSO = 0.0; PTA TA SO 0.01

Method: The roll-up NTG value covers Prescriptive, Partner Trade Ally (PTA), and Custom MF participants. Free ridership from Navigant analysis of 23 participant interviews conducted in 2019 of 2018 MF Program participants (C/P 90/9). Sample size not large enough for path-based estimates. Participant Spillover from survey of 65 participants from a sample of Nicor Gas, Peoples Gas, and North Shore Gas GPY6 multi-family program participants. NPSO (PGL & NSG EM&V GPY5; TRM v6.0 algorithms). TA SO derived from CY2022 participating TA's (8 of 9 TAs), and applies to the PTA path only.

Multi-Family Comprehensive Gas Optimization

NTG: 0.94; Free Ridership: 0.06; Participant Spillover: 0.00.

(Guidehouse Research, 2021) Evaluation research consisting of 2019 and 2020 participating customers. Participant free-ridership of 6% and participant spillover of 0% from 5 participating customer NTG interviews completed from a population of 15 contacts from 11 accounts (representing 79% of population therm savings). Respondents did not include large multi-family buildings but large hotels were represented in the respondents, which have similar characteristics.
