

**To:** Peoples Gas (PGL) and North Shore Gas (NSG)  
**CC:** Jennifer Morris, ICC Staff; Randy Gunn, Kevin Grabner, Rob Neumann, Laura Agapay-Read, Navigant  
**From:** Cherlyn Seruto, Navigant  
**Date:** August 28, 2019  
**Re:** Peoples Gas (PGL) and North Shore Gas (NSG) CY2018 Custom Rebate Program Free Ridership, Spillover and Net-to-Gross Research Results

## EXECUTIVE SUMMARY

This memo presents the results of the net-to-gross (NTG) research of the Peoples Gas (PGL) and North Shore Gas (NSG) Custom Rebate Program for the 2018 program year. Navigant staff collected this data by fielding a participant survey via outbound telephone calls during Q2 2019. Of the 24 projects completed in 2018 by 19 customers, ten participants took part in the survey (53% response rate). Responding participants represent 48% of savings achieved in 2018. Participants included private sector commercial and industrial customers and public sector customers.

These results will inform Navigant's September 2019 recommendations to the Illinois Energy Efficiency Stakeholder Advisory Group (SAG) of NTG values to be used for this program in PY2020.

**Table 1. 2018 Program Level Net-to-Gross Results for the PGL and NSG Custom Rebate Program**

Free Ridership	Spillover	NTG
0.26	0	0.74

*Source: Navigant analysis of participant surveys conducted in 2019 of 2018 Custom Rebate Program participants, including the private and public sectors.*

## FREE RIDERSHIP AND SPILLOVER SURVEY DISPOSITION

Navigant staff fielded this outbound telephone survey during Q2 2019. Of the 19 customers representing 24 completed projects in 2018, ten customers took part in the survey, totaling a 53% response rate (the projects of these ten customers represent 48% of program savings). The results meet a 90% confidence interval within 8% precision.

**Table 2. Free Ridership and Spillover Decision Maker Survey Disposition**

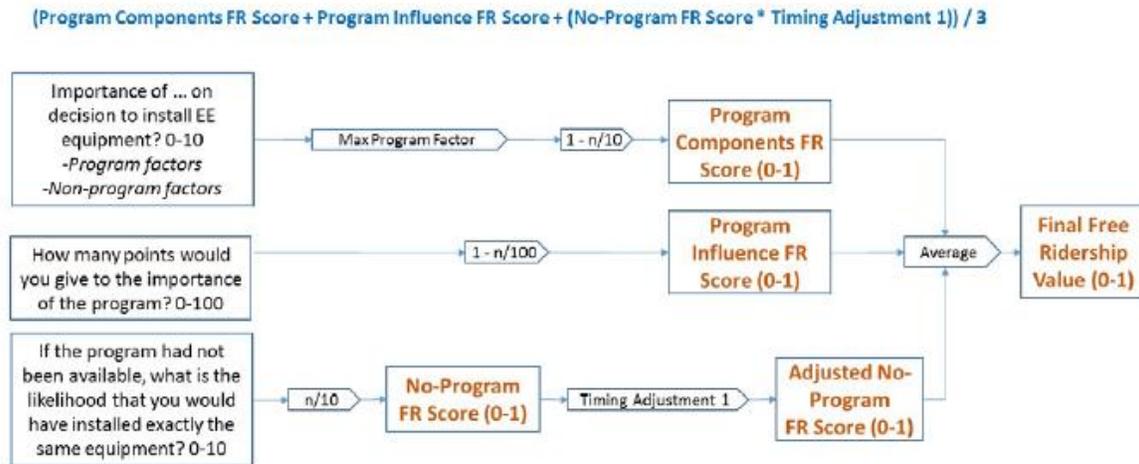
Measure	Population (census)	Completes	Share of Program Savings Represented by Analyzed Completes
Overall Program	19	10	48%

*Source: Navigant 2018 Custom Rebate Program participant survey.*

## FREE RIDERSHIP AND SPILLOVER PROTOCOLS

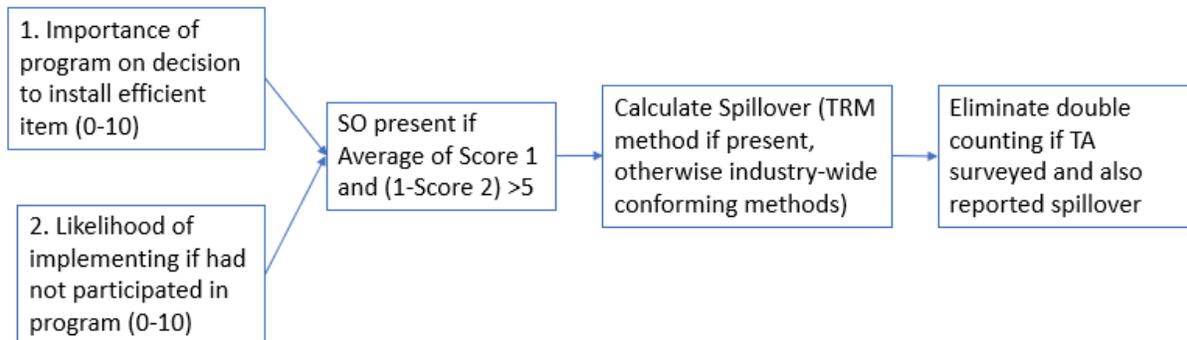
The evaluation team applied the relevant free ridership and spillover protocols from version 7 of the Illinois Technical Reference Manual (TRM)<sup>1</sup>.

**Figure 1. Core Free Ridership Algorithm 1**



Source: Illinois TRM Version 7

**Figure 2. IL TRM Spillover Guidance**



Source: Navigant simplification of Illinois TRM Version 7 guidance

## DETAILED NET TO GROSS RESULTS

### Free Ridership Consistency Check Analysis

To address the possibility of conflicting responses, the TRM specified consistency checks that ask participants open ended questions to address a program’s influence. When the answers given in the course of the free ridership questions express inconsistency (e.g. a high rating attributed to the program, and a high likelihood of upgrading without the program), open-ended questions ask the respondent to clarify the influence the program had on their decision to upgrade. Four of the ten completes triggered a consistency check. The analytical process to resolve these inconsistencies included two (or more)

<sup>1</sup> Illinois TRM Version 7, Section 3.1 Core Non-Residential Protocol

independent reviews. The reviewers assessed sub-scores and open-ended responses to consistency check questions and recommended one of the following adjustments based on the consistency of these components:

- 1) Omit the record because the scores are not consistent with consistency check verbatim or consistency check verbatim is not related to a description of program influence,
- 2) Remove one or more sub-scores due to inconsistency, or
- 3) Do not change the approach for this record, verbatim reflects the duality that triggered the consistency check.

As a result of the consistency check process, Navigant removed the Program Influence (PI) Score from two participants' free ridership calculation, and the No Program (NP) score from two participants' free ridership calculation. In these instances the removed component score was inconsistent with the open ended response to the consistency check question.

### **Rationale for Removal of the PI Score**

The intention of the PI score is to “quantify the importance of the program on the decision to implement energy efficiency measures relative to the importance or impact of non-program factors”. If the PI score was inconsistent with the Program Component (PC) and NP scores, we evaluated the open-ended response explaining the PI score. If the PI score open-ended response mentions factors or describes a scenario that are inconsistent with the intention of the PI question, the PI score is removed. This was the case for one respondent, where the consistency check open-ended response agreed with the PC and NP scores, and the PI score was removed. A second respondent had zero free ridership under the PC Score and the NP Score, yet the PI score expressed free ridership. Analysis of the consistency check open-ended response agreed with the PC and NP scores, and the PI score of this respondent was also removed.

### **Rationale for Removal of the NP Score**

Two respondents demonstrated low free ridership scores under the PC and PI components, yet a high free ridership score under the NP component. Analysis of the open-ended responses indicated the program made them aware of the energy saving potential, and because they were aware they pursued it, and they “probably wouldn't have known about the project” without the program. This indicates the program had a high influence that is not consistent with the other free ridership component scores, therefore the No-Program score was removed in these two instances.

These adjustments are summarized in Table 3 below. The consistency check adjustments lowered the overall free ridership slightly, from 0.28 to 0.26.

**Table 3. Free Ridership Consistency Check Disposition for Direct Install Measures**

Response Disposition	Total
<b>Customers covered by interviews</b>	<b>10</b>
Excluded: Non-response	0
<b>Triggered Consistency Check</b>	<b>4</b>
Evaluated to Require No Change	0
Evaluated to Exclude PI Score Only	2
Evaluated to Exclude NP Score Only	2

*Source: Navigant analysis of data from telephone interviews conducted with 2018 PGL and NSG Custom Rebate Program participants.*

## Spillover Estimation

Three of the ten responding participants reported energy efficiency upgrades since their participation in the program, however the program influence attributed by each respondent to these improvements was insufficient to qualify as spillover.

## Free Ridership and Spillover to Create Program Net-to-Gross Ratio

The net-to-gross ratio is calculated by taking  $1 - \text{free ridership} + \text{spillover}$ .

**Table 4. Participant Free Ridership and Spillover for the Custom Program**

Free Ridership	Spillover	NTG
0.26	0	0.74

*Source: Navigant analysis of participant surveys conducted in 2019 of 2018 Custom Rebate Program participants, including the private and public sectors.*

## APPENDIX: PGL AND NSG NTG HISTORY

Business and Public Sector Programs Custom Rebate	
GPY1	<p>NTG 0.68                      Free ridership 0.32                      Participant Spillover 0.00                      Method and Source: Evaluation research consisting of participating customer self-reports: 15 NTG interviews completed covering 15 projects from a population of 32 projects. No quantifiable participant spillover was found from customer self-reports.</p>
GPY2	<p>NTG 0.78; Free ridership 0.24; Participant Spillover 0.02; Non-Participant Spillover 0.00                      Method and Source: Evaluation research consisting of GPY2 participating customer self-reports, GPY2 participating trade ally self-reports, and non-participating trade ally self-reports. Free-ridership of 41% and participant spillover of 0.1% from 40 participating customer NTG interviews completed covering 44 projects from a population of 100 projects. Participant spillover of 2% from 5 participating trade ally interviews. Non-participant spillover of 0% from 5 non-participating trade ally interviews.</p>
GPY3	<p>NTG 0.78; Free ridership 0.24; Participant Spillover 0.02; Non-Participant Spillover 0.00                      Method and Source: Deemed by SAG consensus from GPY2 evaluation research.</p>
GPY4	<p>NTG 0.68                      Method and Source: Based on GPY2 evaluation research, but with adjustment based on review of other Illinois Custom programs.</p>
GPY5	<p>NTG 0.78; Free ridership 0.24; Participant Spillover 0.02; Non-Participant Spillover 0.00                      Method and Source: Based on GPY2 evaluation research of the C&amp;I Custom Program, but with no further adjustments based on review of other Illinois Custom Program NTG values for GPY5/EPY8.</p>
GPY6	<p>NTG 0.69; Free ridership 0.31; Participant Spillover: 0.00; Non-Participant Spillover: 0.00                      Method and Source: Evaluation research consisting of GPY4 participating customer self-reports, and GPY4 participating trade ally self-reports. Free-ridership of 31% and participant spillover of 0% from 13 participating customer NTG interviews completed from a population of 29 (a relative precision of <math>\pm 19\%</math> at a 90% confidence level). Participant spillover of 0 from 6 participating trade ally interviews. Non-participant spillover of 0% from 5 non-participating trade ally interviews conducted in GPY2 as part of evaluation research.</p>
2018 (GPY7)	<p>NTG: 0.69                      Method: No new research. Retained GPY6 final value.</p>
2019	<p>NTG: 0.69; Free Ridership 0.31                      Method: No new research. FR, PSO (IL EM&amp;V GPY4, NPSO (IL EM&amp;V GPY2)</p>

Source:

[http://ilsagfiles.org/SAG\\_files/NTG/2019\\_NTG\\_Meetings/Corrected\\_NTG\\_Values/PGL\\_NS\\_G\\_NTG\\_History\\_and\\_2019\\_Recommendations\\_Faucet\\_Aerator\\_and\\_Showerhead\\_Correction\\_2019-04-12.pdf](http://ilsagfiles.org/SAG_files/NTG/2019_NTG_Meetings/Corrected_NTG_Values/PGL_NS_G_NTG_History_and_2019_Recommendations_Faucet_Aerator_and_Showerhead_Correction_2019-04-12.pdf)