



To: Peoples Gas and North Shore Gas

From: Cherlyn Seruto, Jan Harris, Guidehouse

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Re: Peoples Gas and North Shore Gas Public Sector Custom and Prescriptive 2019-2020 Participant Net-to-Gross Survey Results

Executive Summary

This memo summarizes findings from primary Net-to-Gross (NTG) research undertaken by Guidehouse on the Public Sector Custom and Prescriptive programs delivered by Peoples Gas (PGL) and North Shore Gas (NSG). Guidehouse conducted the on-line and telephone survey using Illinois TRM v9.0 methodologies in June of 2021 with program participants from 2019 and 2020. The survey was focused on determining participant free ridership (FR) and spillover (SO). Table 1 provides a summary of the Public Sector free ridership and spillover participant research findings.

Table 1. Participant Net-to-Gross Research Results for PGL/NSG Public Sector

Participant Free Ridership	Participant Spillover	Representation*
0.16	0.00	78%

* Percent of 2019 and 2020 Public Sector Custom and Prescriptive program participant savings represented by the respondents of the 4 completed interviews.
Source: Guidehouse primary NTG research and analysis.

These results will inform Guidehouse’s September 2021 recommendations to SAG of NTG values to be used for this program sector in 2022.

Research Methodology

Guidehouse gathered data through a participant self-report on-line and telephone survey, with a census of program participants from 2019 and 2020. Forty percent of public sector participants completed both prescriptive and custom projects in 2019 and 2020, and half of responding participants completed both prescriptive and custom projects in 2019 and 2020. Savings in the public sector is achieved primarily through the Prescriptive Program: verified net therms were 95% Prescriptive for PGL, and 92% Prescriptive for NSG. Because these participants completed projects in both prescriptive and custom programs, we are presenting the four responses as a unique NTG recommendation specific to the Public Sector Custom and Prescriptive programs.

Table 2. NTG Decision Maker Research Representation

Population	Sample	Completes	Share of Program Savings Represented by Analyzed Completes
15 Unique Contacts	Census	4	78%

Source: Guidehouse research and analysis.

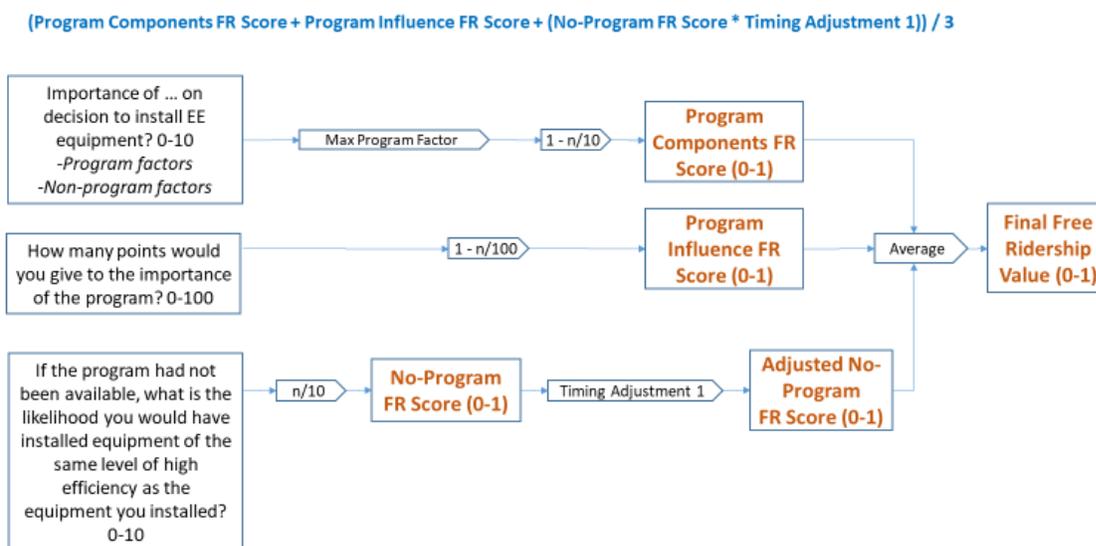
Free Ridership and Spillover Protocols

This research is a follow-up to private sector NTG research conducted for the PGL and NSG Custom and Prescriptive programs in 2019¹ and 2020², respectively, therefore the evaluation team applied relevant free-ridership and spillover protocols from TRM v8.0 to be consistent with the prior research (this particular algorithm remained unchanged in TRM v9.0). We sourced free-ridership questions from Section 3.1 “Core Non-Residential Protocol”, and spillover questions from Section 3.2 “Core Non-Residential Spillover protocol”.

Participant Free Ridership Estimation

The following diagram describes the Core Non-Residential Free-Ridership Protocol from TRM v9.0 that Guidehouse used to calculate the free ridership for the Public Sector programs.

Figure 1. Core Free Ridership Algorithm 1



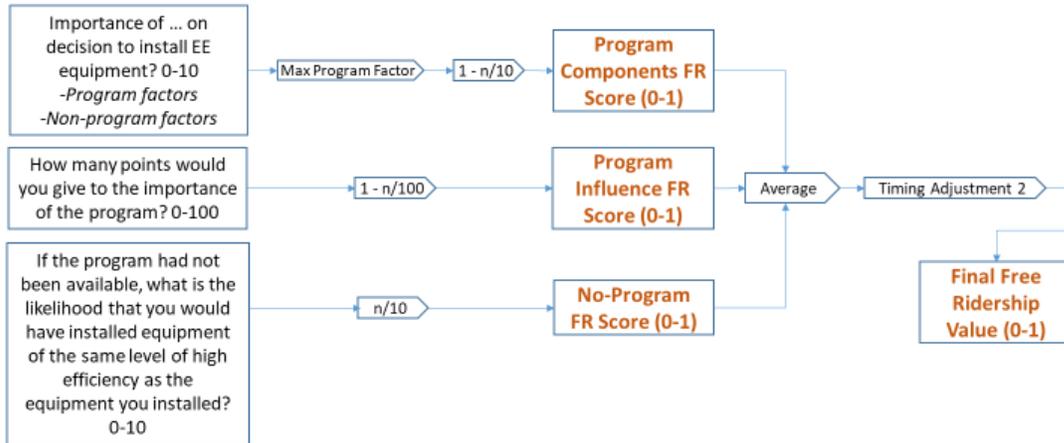
Source: Core Non-Residential Protocol (TRM v9.0 Figure 3.1, page 44)

¹ Navigant (now known as Guidehouse), Peoples Gas (PGL) and North Shore Gas (NSG) CY2018 Custom Rebate Program Free Ridership, Spillover and Net-to-Gross Research Results, August 28, 2019.

² Guidehouse, Net-to-Gross Research Results for Peoples Gas and North Shore Gas Business Prescriptive Program, August 31, 2020.

Figure 2: Core Free Ridership Algorithm 2

$$((\text{Program Components FR Score} + \text{Program Influence FR Score} + \text{No-Program FR Score}) / 3) * \text{Timing Adjustment 2}$$



Source: Core Non-Residential Protocol (TRM v9.0 Figure 3.1, page 44)

Table 3 reports the average Program Component (PC), Program Influence (PI), and No-Program (NP) Scores and FR value weighted by participant savings. Guidehouse conducted a triple blind review of each component score along with open ended responses, and in this case found Algorithm 2 results at the respondent level to be most representative of the open ended comments related to program free-ridership. We are recommending the Algorithm 2 results for this public sector NTG update.

Table 3. Average Participant Free Ridership Results

Algorithm	N	Average PC Score	Average PI Score	Average NP Score	Average Timing Adjustment	Average FR
Algorithm 1	4	0.08	0.34	0.28	0.13	0.28
Algorithm 2						0.16

Source: Guidehouse research and analysis.

Trade Ally Free Ridership Estimation

We used the trade ally free ridership estimate from the Business Prescriptive Program NTG research we conducted in 2020³ because three of the four trade allies interviewed completed projects for both the private and public sectors.

³ Guidehouse, *Net-to-Gross Research Results for Peoples Gas and North Shore Gas Business Prescriptive Program*, August 31, 2020.

Table 4. Trade Ally Researched Free Ridership Findings

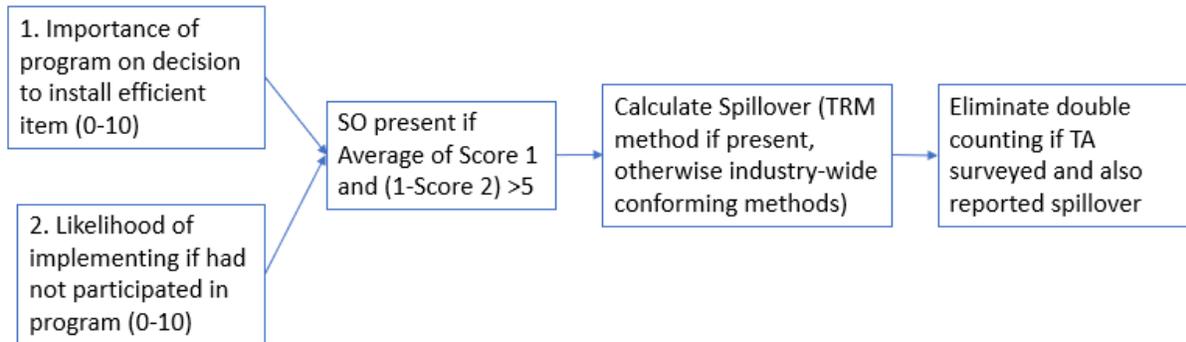
PITA Score*	NP Score†	Free Ridership
0.00	0.27	0.13

* The PITA score is an estimate of the program’s influence on the Trade Ally.
 † The No-Program (NP) Score is an estimate of the number of energy efficient items the trade ally would have installed or serviced absent the program
 Source: Guidehouse 2020 Business Prescriptive NTG memo

Participant Spillover Estimation

Guidehouse calculated spillover based on TRM v9.0 Section 3.2.1, Core Non-Residential Participant Spillover Protocol, using the method summarized in Figure 3 below.

Figure 3. TRM v9.0 Section 3.2.1 Core Non-Residential Participant Spillover Protocol



Source: Guidehouse Representation of TRM v9.0 Study

Of the four respondents, one stated they installed additional high efficiency items without a rebate. However, this respondent did not rank program influence greater than a 5 on the 0-10 scale, therefore we could not quantify any spillover.

Trade Ally Spillover Estimation

Trade Ally spillover research was conducted for private sector business prescriptive program TAs that were active in 2018 and 2019. We cross referenced the four TAs that were involved in private sector projects from the 2020 Business Prescriptive NTG results, and found three also serviced 2019 and 2020 public sector participants. Therefore we are summarizing the relevant three TA spillover results from the 2020 survey here to merge with the participant perspective.

Table 5. TA Spillover Results*

Spillover Gross Therms	Spillover Ratio	TA's Contributing to Spillover
7,160	0.07	3

* Converted from 2020 research conducted with TAs active in 2018 and 2019. Removed savings data for TAs that were not active with Public Sector projects in 2019 and 2020, and included Public Sector savings from 2019 and 2020 in the denominator.

Source: *Guidehouse analysis of data from surveys conducted with 2018 & 2019 Peoples Gas / North Shore Gas Business Prescriptive Program participants and trade allies.*

Combining Participant and Trade Ally Free Ridership Scores

The TRM suggests trade ally perspectives of participant free ridership and spillover be combined with participant perspectives *where trade allies play a prominent role in delivering the energy efficiency measure and promoting the program*. In the public sector very few records are not associated with a trade ally. The TRM recommends the following triangulation weighting approach as a method to combine participant and trade ally perspectives of the free ridership present in the program.

We weighted the following items according to our analysis of the results:

1. How likely is the approach to provide an accurate estimate of free ridership?
 - a. We assigned the participant response a value of 93% because we followed the TRM approach which is considered the most appropriate approach at the time of development based on the Illinois NTG working group and SAG perspectives. We reduced the full weight of 100% by the coefficient of variance in the responses (1.00-.07).
 - b. We assigned the trade ally a value of 40%, because the TRM does not currently contain a standardized approach for measuring free ridership from trade allies – this is a new approach in Illinois that has not been refined through the NTG working group process.
2. How valid is the data collected / analysis?
 - a. We assigned the participant response a value of 91%, because we followed the TRM approach. We lowered the value by 9% because this is the precision of the results at the 90% confidence interval.
 - b. We assigned the trade ally results a value of 79%. This is the portion of trade ally savings from the total trade ally sample that overlap with the active public sector trade allies.
3. How representative is the sample?
 - a. We assigned the participant results a rank of 78%, because this is the amount of program savings represented by the responding participants.
 - b. We assigned the trade ally results a rank of 58%, because this is the amount of applicable program savings represented by the responding trade allies.

The weighting values and results are summarized below in Table 6.

Table 6. Triangulation Weighting Approach for Participant and TA Free Ridership Perspectives

NTG Triangulation Data and Analysis	Participants	Trade Allies
1. How likely is this approach to provide an accurate estimate of free ridership?	93%	40%
2. How valid is the data collected / analysis?	91%	79%
3. How representative is the sample?	78%	58%
Average Score	87%	59%
Sum of Averages	146%	
Weight	60%	40%

Source: Guidehouse analysis of trade ally data from surveys conducted with 2018 & 2019 Peoples Gas / North Shore Gas Business Prescriptive Program trade allies, and participant data from surveys conducted with the 2019 and 2020 Peoples Gas / North Shore Gas Public Sector.

The triangulation of participant and trade ally scores result in the following combined weighted free ridership value for the Public Sector (Table 7).

Table 7. Free Ridership, Spillover, and Weighted Average Free Ridership

NTG Component	Participant Score	Trade Allies' Perspective of Participant Score	Weighted Average
Free Ridership	0.16	0.13	0.15
Spillover	0.00	0.07	N/A*

* Participant and trade ally spillover estimates are not additive or weighted. Instead, the results are reviewed for double counting and the most representative estimate is selected.

Source: Guidehouse analysis of trade ally data from surveys conducted with 2018 & 2019 Peoples Gas / North Shore Gas Business Prescriptive Program trade allies, and participant data from surveys conducted with the 2019 and 2020 Peoples Gas / North Shore Gas Public Sector.

NTG Recommendation

Table 8 summarizes Guidehouse's NTG recommendations for the Public Sector Prescriptive and Custom Programs.

Table 8. Recommended Public Sector Free Ridership, Spillover, and NTG

Sector	Program	Free Ridership	Participant Spillover	TA Spillover	NTG
Public	Prescriptive Rebate	0.15	0.00	0.07	0.92
Public	Custom Rebate	0.15	0.00	0.07	0.92

Source: Guidehouse research and analysis.

The current deemed NTG values used for the Public Sector in 2021 are 0.91 for prescriptive projects and 0.74 for custom projects.