

Nicor Gas Energy Efficiency Programs

Summary of NTG Approach and Values for GPY1 through GPY6

February 29, 2016 Final Values for GPY6

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	Nicor Gas Business Custom Incentive Program
GPY1	<p>NTG 0.53 Free ridership 47% Spillover 0% Method: Customer self-report: 11 surveys completed from a population of 28. Standard Rigor approach. Trade allies called for 3 participants and their responses factored in to the customer free ridership calculation.</p>
GPY2	<p>NTG 0.72 Free ridership 28% Spillover 0% Method: Evaluation research consisting of GPY2 participating customer self-reports. Free-ridership of 28% and participant spillover of 0% from 16 participating customer NTG interviews completed from a population of 73 projects. Standard Rigor approach.</p>
GPY3	<p>NTG 0.73 Free ridership 27% Spillover 0% Method: Evaluation research consisting of 7 participating GPY3 customer self-reports, with the program level estimate based on combining samples and populations from GPY2 and GPY3. Standard Rigor approach.</p>
GPY4	<p>NTG 0.53 Free ridership 47% Spillover 0% Method: NTG values for GPY4 were deemed using values from GPY1, and reported in Table 14 of the Nicor Gas filed Energy Efficiency Plan for GPY4-GPY6.</p>
GPY5	<p>NTG 0.73 Free ridership 27% Spillover 0% Method: Values from GPY3 evaluation research.</p>
GPY6	<p>NTG 0.73 Free ridership 27% Spillover 0% Method: Values from GPY3 evaluation research.</p>

	Nicor Gas Business Energy Efficiency Rebate Program
GPY1	<p>NTG 0.73 Free ridership .27% Spillover 0% Method: Customer self-report: 34 surveys completed from a population of 146. Standard Rigor approach. No quantifiable participant spillover was found from customer self-reports.</p>
GPY2	<p>NTG 0.73 Free ridership 27% Spillover 0% Method: SAG approved NTG ratio based on GPY1 research.</p>
GPY3	<p>NTG 0.83 Free ridership 27% Spillover 10% Method: SAG approved NTG ratio based on GPY1 free-ridership research and deemed spillover.</p>
GPY4	<p>NTG 0.83 Free ridership 27% Spillover 10% Method: NTG values for GPY4 were deemed using values from GPY3, and reported in Table 14 of the Nicor Gas filed Energy Efficiency Plan for GPY4-GPY6.</p>
GPY5	<p>NTG 0.68 Free ridership 35% Participant Spillover 1% Non-Participant Spillover: 2% Method: NTG ratio based on GPY4 free-ridership and participant spillover research consisting of interviews with 44 GPY3 customer participants and 20 GPY3 trade ally participants. Standard Rigor approach. Non-participant spillover drawn from GPY2 research consisting of 31 non-participating trade ally interviews.</p>
GPY6	<p>NTG 0.68 Free ridership 35% Participant Spillover 1% Non-Participant Spillover: 2% Method: NTG ratio based on GPY4 free-ridership and participant spillover research. Non-participant spillover drawn from GPY2 research consisting of 31 non-participating trade ally interviews.</p>

	Nicor Gas Business New Construction Service
GPY1	<p>NTG 0.33 Free ridership 67% Spillover 0% Method: Customer self-report for all projects. Interviews with individuals representing 4 of 7 projects with gas incentives. NTG scores were adjusted for standard design national retail stores and LEED projects.</p>
GPY2	<p>NTG 0.52 Free ridership N/A Spillover N/A Method: SAG deemed NTG ratio based on electric program evaluation results from EPY4.</p>
GPY3	<p>NTG 0.52 Free ridership N/A Spillover N/A Method: SAG deemed NTG ratio based on electric program evaluation results from EPY4.</p>
GPY4	<p>NTG 0.52 Free ridership N/A Spillover N/A Method: NTG values for GPY4 were deemed using values from GPY3, and reported in Table 14 of the Nicor Gas filed Energy Efficiency Plan for GPY4-GPY6.</p>
GPY5	<p>NTG 0.92 Free ridership 8% Spillover 0% Method: Gas-weighted free-ridership and spillover results from participant interviews conducted for the Nicor Gas and ComEd GPY3/EPY6 Business New Construction Program evaluation.</p>
GPY6	<p>NTG 0.67 Method and Source: FR, PSO, and NPSO research conducted for Nicor Gas and ComEd for GPY4/EPY7 resulted in a NTG of 0.57 for gas. SAG consensus for GPY6 is a three-year average of 0.52, 0.92, and 0.57. Also applies to small business new construction.</p>

	Nicor Gas Economic Redevelopment
GPY1	<p>NTG 0.8 (planning value) Free ridership N/A Spillover N/A Method: Due to the small number of projects completed in PY1, Navigant used the planning NTG value of 0.8.</p>
GPY2	<p>NTG 0.70 Free ridership N/A Spillover N/A Method: The NTG ratio was deemed by SAG.</p>
GPY3	<p>NTG 0.70 Free ridership N/A Spillover N/A Method: The NTG ratio was deemed by SAG.</p>
GPY4	Discontinued.

	Nicor Gas Emerging Technologies Program
GPY1	<p>NTG N/A Free ridership N/A Spillover N/A Method: N/A This program feeds other C&I programs; any impacts were attributed to the relevant program.</p>
GPY2 through GPY5	<p>NTG 1.00 Free ridership N/A Spillover N/A Method: The NTG ratio was deemed by SAG.</p>
GPY6	<p>NTG 1.00 Free ridership N/A Spillover N/A Method: Use value from GPY2 through GPY5.</p>

	Nicor Gas Retro-Commissioning
GPY1	<p>NTG 1.02 Free ridership 9% Spillover 11% Method: Customer and service provider self-report. NTG based on GPY1 research – 11 participants with gas savings and eight of nine service providers surveyed. Enhanced method. Participant and Service Provider spillover researched.</p>
GPY2	<p>NTG 1.02 Free ridership 9% Spillover 11% Method: SAG deemed NTG ratio based on GPY1 evaluation research.</p>
GPY3	<p>NTG 1.02 Free ridership 9% Spillover 11% Method: SAG deemed NTG ratio based on GPY1 evaluation research.</p>
GPY4	<p>NTG 1.02 Free ridership 9% Spillover 11% Method: NTG values for GPY4 were deemed using values from GPY3, and reported in Table 14 of the Nicor Gas filed Energy Efficiency Plan for GPY4-GPY6.</p>
GPY5	<p>NTG 1.02 Free ridership 9% Spillover 11% Method: No new research. Values based on GPY1 evaluation research.</p>
GPY6	<p>NTG 1.02 Free ridership 9% Spillover 11% Method: No new research. Values based on GPY1 evaluation research.</p>

	Nicor Gas Strategic Energy Management (SEM)
GPY5	<p>Launched in GPY5</p> <p>NTG 0.91 Free ridership 0.09 Spillover 0.00 Method: Free-ridership value from GPY5 Nicor Gas Retro-Commissioning. The non-participant spillover value is set at zero. The SEM NTG value applies only to incremental savings attributed to the SEM program that are not accounted for in other programs.</p>
GPY6	<p>NTG 1.00 Free ridership: NA Participant Spillover: NA Non-Participant Spillover: NA Method: SAG consensus value. Program NTG value would apply to other cohorts (for example, healthcare) as well as industrial. For equipment measures identified through SEM that are channeled through other incentive programs, use the NTG of the program processing the equipment incentive.</p>

	Nicor Gas Combined Heat and Power
GPY5	<p>Launched in GPY5</p> <p>NTG 0.73 Free ridership 0.73 Spillover 0.00 Method: GPY5 NTG value for Nicor Gas Custom Program.</p>
GPY6	<p>NTG: Project-specific NTG values to be determined by evaluation early in each project. If that is not possible, the default of 0.8 NTG will be used. Method: NTG of 0.8 is an average based on evaluation secondary research and NYSERDA's 0.9 NTG.</p>

	Nicor Gas Small Business Energy Savings
GPY1	<p>NTG 1.00 Free ridership 2% Spillover 2% Method: Customer self-report combined with trade ally input. 24 participant surveys completed from a population of 272. Basic method of participant free-ridership analysis was used. No participant spillover was found. Customer participant self-reported free-ridership was 20 percent for Nicor. Individual trade ally responses (representing over 80% of PY1 program savings) to free-ridership questions were weighted by their respective fuel-specific program savings contributions and combined for a fuel-specific maximum overall free-ridership rate. This approach resulted in an evaluation estimate of 0.02 free-ridership for gas measures that was balanced by spillover of 0.02 resulting in a NTG ratio of 1.00 for Nicor.</p>
GPY2	<p>NTG 1.00 Free ridership 2% Spillover 2% Method: SAG deemed NTG ratio based on GPY1 evaluation research.</p>
GPY3	<p>NTG 1.00 Free ridership 2% Spillover 2% Method: SAG deemed NTG ratio based on GPY1 evaluation research.</p>
GPY4	<p>NTG 1.00 Free ridership 2% Spillover 2% Method: NTG values for GPY4 were deemed using values from GPY3, and reported in Table 14 of the Nicor Gas filed Energy Efficiency Plan for GPY4-GPY6.</p>
GPY5	<p>NTG 0.93 Free ridership 9% Spillover 2% Method: The GPY5 NTG value uses an equal-weight average of the free-ridership estimate from participant survey research performed on ComEd participants during EPY7 with the free-ridership estimate derived from Nicor Gas trade ally interviews in GPY1. For participant spillover, the EPY7 ComEd result was 2%, the Nicor Gas GPY1 result was 2%, and PGL/NSG GPY1 result was 1%. A value of 2% for participant spillover was set for all three utilities. This results in a NTGR of 0.93. For ComEd PY7 NTG research, Navigant conducted a CATI survey of 70 program projects drawn at random from a sample frame of 4,441 projects with ex-ante savings of 5,000 kWh or greater, representing 82 percent of PY7 projects and 98 percent of PY7 expected savings. Sample size chosen to attain +/- 10 percent precision at 90 percent confidence.</p>

GPY6	<p>NTG 0.93 for Direct Install, Retrofit (custom and prescriptive projects).</p> <p>Free ridership 0.09; average of participant (0.16) and trade ally (0.03)</p> <p>Participant Spillover 0.02</p> <p>Non-Participant Spillover 0.00</p> <p>Method: The GPY6 NTG value uses an equal-weight average of the 16 percent free-ridership estimate from participant survey research performed on ComEd participants during EPY7 (described in GPY5 above) with the three percent free-ridership estimate derived from PG and NSG trade ally interviews in GPY4. The PG and NSG GPY4 trade ally free ridership is based on 12 trade ally interviews from a population of 55. The GPY4 trade ally interviews found no spillover. The GPY4 PG & NSG trade ally free ridership was considered the best available research value for Nicor Gas, based on similarities in program design and measure mix, and trade ally overlap.</p> <p>For participant spillover, the EPY7 ComEd result was 2%, the Nicor Gas GPY1 result was 2%, and PG/NSG GPY1 result was 1%. A value of 2% for participant spillover was set for all three utilities.</p>
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	Nicor Gas Home Energy Efficiency Rebate
GPY1	<p>NTG 0.69</p> <p>Free-ridership 37%</p> <p>Spillover 6%</p> <p>Method: Evaluation research consisting of customer self-report data from 74 program participants and 53 participating trade allies.</p>
GPY2	<p>NTG 0.69</p> <p>Free-ridership 37%</p> <p>Spillover 6%</p> <p>Method: SAG deemed based on GPY1 research.</p>
GPY3	<p>NTG 0.79</p> <p>Free-ridership 37%</p> <p>Spillover 16%</p> <p>Method: SAG deemed based on GPY1 research and spillover adjustment of 0.10.</p>
GPY4	<p>NTG 0.79</p> <p>Free-ridership 37%</p> <p>Spillover 16%</p> <p>Method: NTG values for GPY4 were deemed using values from GPY3, and reported in Table 14 of the Nicor Gas filed Energy Efficiency Plan for GPY4-GPY6.</p>
GPY5	<p>NTG 0.79</p> <p>Free-ridership 37%</p> <p>Spillover 16%</p> <p>Method: No new research. Values based on GPY1 (free-ridership and spillover) and GPY3 (spillover adder).</p>
GPY6	<p>NTG 0.79</p> <p>Free-ridership 37%</p> <p>Spillover 16%</p> <p>Method: No new research. Values based on GPY1 (free-ridership and spillover) and GPY3 (spillover adder). Program NTG value of 0.79 may be used for an "HVAC Saves" furnace quality installation pilot/program.</p>

	Advanced (Smart) Thermostats defined in TRM Version 5.0
GPY6	<p>NTG 1.00</p> <p>Method: Research for TRM Version 5 savings value was conducted as a large sample billing analysis with control group. Natural gas savings shown in TRM Version 5 are net savings, no additional NTG adjustment is applied.</p>

	Nicor Gas Behavioral Energy Savings-Energy Buzz
GPY1	NTG N/A Free-ridership N/A Spillover N/A Method: PY1 had no impacts due to late launch.
GPY2	NTG N/A Free-ridership N/A Spillover N/A Method: GPY2 found a net savings value of 26 therms per participant based on secondary research.
GPY3	NTG N/A Free-ridership N/A Spillover N/A Method: GPY3 will use a deemed net savings value of 26 therms per participant based on GPY2 secondary research.
GPY4	Discontinued.

	Nicor Gas Behavioral Energy Savings - Home Energy Reports
GPY1	NA Launched in GPY3
GPY2	NA Launched in GPY3
GPY3	NTG 1.00 Free ridership N/A Spillover N/A Method: GPY3 billing analysis will yield a net savings value that includes FR and participant SO impacts.
GPY4	NA
GPY5	NTG 1.00 Free ridership N/A Spillover N/A Method: GPY5 billing analysis will yield a net savings value that includes FR and participant SO impacts.
GPY6	NTG 1.00 Free ridership N/A Spillover N/A Method: GPY6 billing analysis will yield a net savings value that includes FR and participant SO impacts.

	Nicor Gas Home Energy Savings
GPY1	<p>Overall NTG 0.86 Overall Free ridership 0.15 Overall Spillover 0.01 Method: Customer self-reports. 54 full-participant (direct install and weatherization measures) surveys completed from a population of 1,081 audits and 320 full-participants.</p>
GPY2	<p>NTG 0.86 Free ridership N/A Spillover N/A Method: SAG deemed NTG ratio.</p>
GPY3	<p>NTG 0.86 Free ridership N/A Spillover N/A Method: SAG deemed NTG ratio.</p>
GPY4	<p>NTG 0.86 Free ridership N/A Spillover N/A Method: NTG values for GPY4 were deemed using values from GPY3, and reported in Table 14 of the Nicor Gas filed Energy Efficiency Plan for GPY4-GPY6.</p>
GPY5	<p>NTG 1.05 Free ridership 9% Spillover 14% Method: Documented in the GPY2 Home Energy Savings evaluation report. Free ridership values from GPY1 full-participant research, and updated spillover values based on GPY2 full participant (n=104) and assessment-only participant surveys (n=68). The evaluation also used trade ally free ridership and spillover feedback that was combined with participant results.</p>
GPY6	<p>NTG 1.05 Free ridership 9% Spillover 14% Method: No change to values from GPY5. Program NTG value of 1.05 may be used for a Deep (comprehensive energy efficiency) Home Energy Assessment retrofit pilot/program.</p>

	Nicor Gas Home Energy Savings for Low and Moderate Income
GPY6	<p>Overall NTG 1.00 Method: SAG consensus.</p>

	Nicor Gas energySMART Energy Saving Kits
GPY1	NA Launched in GPY3
GPY2	NA Launched in GPY3
GPY3	NTG 0.84 Free ridership 16% Spillover 0% Method: GPY3 program participant self-report data, drawn from analysis of 75 interviews.
GPY4	NTG 0.84 Free ridership 16% Spillover 0% Method: NTG values for GPY4 were deemed and reported in Table 14 of the Nicor Gas filed Energy Efficiency Plan for GPY4-GPY6.
GPY5	NTG 0.84 Free ridership 16% Spillover 0% Method: GPY3 program participant self-report data, drawn from analysis of 75 interviews.
GPY6	NTG 0.84 Free ridership 16% Spillover 0% Method: No change to values from GPY5.

	Nicor Gas Residential New Construction
GPY1	NTG not evaluated. Program just launched. No impact evaluation.
GPY2	NTG 0.80; Free ridership 0.20; Spillover 0.00 Method: SAG deemed NTG ratio. The 0.80 NTG was a planning value assigned to the first full year of the program, based on relevant research available at that time (including CPUC NTG=0.80). Preliminary NTG research was conducted on GPY2 builders based on a small sample (seven builders). The GPY2 preliminary research was not used in setting NTG values because it was based on then current building practices compared with the 2009 code, and not the more stringent 2012 code that was coming into force. Evaluation concluded the free-ridership value would not be representative of the more stringent 2012 code.
GPY3	NTG 0.80; Free ridership 0.20; Spillover 0.00 Method: SAG deemed NTG ratio.
GPY4	NTG 0.80; Free ridership 0.20; Spillover 0.00 Method: NTG values for GPY4 were deemed using values from GPY3, and reported in Table 14 of the Nicor Gas filed Energy Efficiency Plan for GPY4-GPY6.
GPY5	NTG 1.00; Free ridership N/A; Spillover N/A Method: No new Illinois research. Navigant examined recent research to assess whether to update the previous values, given that the program will have been operating for four years in GPY5, and should be creating spillover and market effects. Secondary research on more mature residential new construction programs (including MA Res NC (NTG=1.18), National Grid RI (NTG=1.0), CPS Energy Savers (NTG=1.0), and Navigant/ODC/Arizona Public Service RNC market effects 2011 IEPEC paper) found that spillover and market effects are a significant component of the NTG value so that NTGRs are commonly 1.0 or higher. Consensus conclusion was that the GPY5 RNC NTG value be 1.00, with the expectation that spillover and market effects will offset free-ridership.
GPY6	NTG: 0.65 Free ridership: 0.39 Participant Spillover: 0.04 Non-Participant Spillover: No value for non-participating builders Method: Navigant conducted interviews with builders and raters who participated in GPY4/EPY7 and GPY3/EPY6 in the winter of 2015 and used data from these interviews to estimate free-ridership and spillover for the program. Research included three measure areas: framing and insulation, HVAC, and other. Navigant interviewed a total of twelve builders (participant pop. 38) and six raters (participant pop. 11) representing 45 percent and 67 percent of homes in the GPY4/EPY7 program, respectively. Three of the builder interviewees represented nearly 80 percent of the interviewed builders' homes; however, the overall program participation is heavily skewed towards a small number of builders as well. In GPY4/EPY7, the top five (of 38) builders represented 80 percent of program homes. This research resulted in an overall range of NTG estimates from 0.39 to 0.65 for gas and 0.35 to 0.63 for electric. Given the uncertainty around self-reported NTG results and ongoing program efforts to reduce free-ridership, Navigant recommended using the maximum NTG values for prospective GPY6 application.

	<p>Nicor Gas Elementary Energy Education</p>
GPY1	<p>NTG 0.68 - 0.96 (varies by measure and participant group) Free ridership 0.18-0.53 Spillover 0.07-0.19 Method: Customer self-report, 223 surveys completed from a population of 9,972.</p>
GPY2	<p>NTG 0.79 Free ridership N/A Spillover N/A Method: SAG deemed NTG ratio</p>
GPY3	<p>NTG 0.79 Free ridership N/A Spillover N/A Method: SAG deemed NTG ratio</p>
GPY4	<p>NTG 0.79 Free ridership N/A Spillover N/A Method: NTG values for GPY4 were deemed using values from GPY3, and reported in Table 14 of the Nicor Gas filed Energy Efficiency Plan for GPY4-GPY6.</p>
GPY5	<p>NTG 1.05 Free ridership 0.14 Spillover 0.19 Method: No new Illinois research. Free-ridership was estimated as the average of values from three Elementary Energy Education impact evaluation reports (weighted 2/3 showerheads, 1/3 aerators): NIPSCO (FR=12%; final report June 2013), Nicor Gas Rider 29 (FR=3%; final report September 2011), and GPY1 Nicor Gas (FR=27%; final report (July 2013). Rider 29 did not estimate spillover; the spillover is the average of results from NIPSCO (SO=21.5%) and GPY1 Nicor Gas (SO=17%).</p>
GPY6	<p>Program NTG: 1.00 Water Efficient Showerheads NTG 1.00 Water Efficient Kitchen Aerators NTG 1.00 Water Efficient Bath Aerators NTG 1.00 Method: Based on SAG consensus.</p>

	<p>Nicor Gas Multifamily Program</p>
GPY1	<p>Program NTG: 0.95 Water Efficient Showerheads NTG 0.95 Water Efficient Kitchen Aerators NTG 0.95 Water Efficient Bath Aerators NTG 0.95 Research Method: Participant self-report. CATI telephone survey with participating decision-makers (20 property managers).</p>
GPY2	<p>Dwelling Unit NTG 0.96 Common Area NTG 0.93 Free ridership N/A Spillover N/A Method: SAG deemed. Values based on GPY1 evaluation research.</p>
GPY3	<p>Dwelling Unit NTG 0.96 Common Area NTG 0.93 Free ridership N/A Spillover N/A Method: SAG deemed. Values based on GPY1 evaluation research.</p>
GPY4	<p>Dwelling Unit NTG 0.96 Common Area NTG 0.93 Free ridership N/A Spillover N/A Method: NTG values for GPY4 were deemed using values from GPY3, and reported in Table 14 of the Nicor Gas filed Energy Efficiency Plan for GPY4-GPY6.</p>
GPY5	<p>Dwelling Unit NTG 0.95 Free ridership 0.07 Spillover 0.02</p> <p>Comprehensive/Common Area NTG 0.94 Free ridership 0.08 Spillover 0.02</p> <p>Method: GPY3 participant self-report. CATI telephone survey with participating GPY3 decision-makers (74 property owners/managers).</p>
GPY6	<p>Dwelling Unit Direct Install NTG 0.95 Free ridership 0.07 Spillover 0.02</p> <p>Comprehensive/Common Area NTG 0.94 Free ridership 0.08 Spillover 0.02</p> <p>Method: GPY3 participant self-report. CATI telephone survey with participating GPY3 decision-makers (74 property owners/managers).</p>