



ComEd New Construction – Bus/Pub Program Impact Evaluation Report

Energy Efficiency/Demand Response Plan:
Program Year 2022 (CY2022)
(1/1/2022-12/31/2022)

Prepared for:

ComEd

FINAL

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Prepared by:

Malena Hernandez
Opinion Dynamics

Jenna DeFrancisco
Opinion Dynamics

Ryan Kroll
Driftless Energy



guidehouse.com

Submitted to:

ComEd
2011 Swift Drive
Oak Brook, IL 60523

Submitted by:

Guidehouse Inc.
150 N. Riverside Plaza, Suite 2100
Chicago, IL 60606

Contact:

Charles Maglione, Partner
703.431.1983
cmaglione@guidehouse.com

Jeff Erickson, Director
608.616.4962
jeff.erickson@guidehouse.com

Adam Knickelbein, Director
303.493.5483
adam.knickelbein@guidehouse.com

Nishant Mehta, Associate Director
608.616.5823
nishant.mehta@guidehouse.com

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Introduction

This report presents the results of the impact evaluation of the New Construction - Bus/Pub program for the program year from January 1 to December 31, 2022 (CY2022).

The program was designed to capture immediate and long-term energy efficiency opportunities that are available during the design and construction of non-residential and multifamily buildings in ComEd’s service territory. The program covers new buildings, additions, and major renovations.

The program reaches out to design professionals, commercial real estate developers, and customers at the beginning of the design process. The implementation team provides technical assistance in building design to reduce energy use beyond what is required by existing building codes and standards.

The program is offered jointly to customers served by ComEd, Nicor Gas, Peoples Gas, and North Shore Gas. This report presents the results just for ComEd. The results for the gas utilities will be in a separate report.

Program Savings Detail

Table 1 summarizes the incremental energy and demand savings the New Construction – Bus/Pub Program achieved in CY2022. The gas savings are only those that ComEd may be able to claim, which excludes savings the gas utilities claim, either via joint or non-joint programs.¹

Table 1. Total Annual Incremental Electric Savings - Total

Savings Category	Units	Ex Ante Gross Savings	Program Gross Realization Rate	Verified Gross Savings	Program Net-to-Gross Ratio (NTG)	CY2020 Net Carryover Savings	CY2021 Net Carryover Savings	Verified Net Savings
Electric Energy Savings - Direct‡	kWh	23,680,102	0.95	22,410,491	0.48	N/A	N/A	10,757,036
Electric Energy Savings - Converted from Gas§	kWh	253,004	0.97	245,683	0.48	N/A	N/A	117,928
Total Electric Energy Savings#	kWh	23,933,106	0.95	22,656,175	0.48	N/A	N/A	10,874,964
Secondary Water Savings	kWh	54,738	1.11	60,497	0.48	N/A	N/A	29,039
Summer Peak** Demand Savings	kW	3,475	0.97	3,354	0.48	N/A	N/A	1,610

‡ The Electric Energy Savings - Direct includes primary kWh savings from efficient measures (includes efficiency savings from fuel switching measures but excludes the fuel switching savings), secondary kWh savings from wastewater treatment, and electric heating penalties.

§ Gas savings converted to kWh by multiplying therms * 29.31 (which is based on 100,000 Btu/therm and 3,412 Btu/kWh). The evaluation team will determine which gas savings will be converted to kWh and counted toward ComEd’s electric savings goal while producing the portfolio-wide Summary Report.

|| Electrification savings from fuel switching measures excluding direct efficiency savings calculated from net electric savings from an increase in kWh consumption and decrease in gas consumption from fuel switching (kWh)

¹ The evaluation will determine which gas savings will be counted toward goal while producing the portfolio-wide Summary Report. According to Section 8-103B(b-25) of the Illinois Public Utilities Act, “In no event shall more than 10% of each year’s applicable annual total savings requirement as defined in paragraph (7.5) of subsection (g) of this Section be met through savings of fuels other than electricity.”

equivalent).

Total Electric Energy Savings is the sum of the Electric Energy Savings - Direct, the Electric Energy Savings Converted from Gas, and the Electrification Savings from fuel switching.

*† The Peak Demand Savings are savings occurring at coincident Summer Peak period, defined as 1:00 p.m. - 5:00 p.m. Central Prevailing Time on non-holiday weekdays, June through August. This definition is in accordance with PJM requirement.

Note: The program-level NTG values are calculated as verified net/verified gross. The program-level analysis typically used measure-level deemed NTG values, which are listed here: <https://www.ilsag.info/evaluator-ntg-recommendations-for-2022>.

Source: *Evaluation team analysis*

Cumulative Persistent Annual Savings

Tables 2 to 4 show the cumulative persisting annual savings (CPAS) for the measures installed in CY2022. Table 2 shows the electric CPAS across all measures installed in 2022. Table 3 shows the gas contribution to CPAS (converted to equivalent electricity). Table 4 shows the combined savings.

Table 2. CPAS – Electric

CPAS Verified Net kWh Savings													
Savings Category	Verified Gross Savings (kWh)	Lifetime Net Savings (kWh)†	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
CY2022 Program Total Contribution to CPAS	22,410,491	187,172,422					10,757,036	10,757,036	10,757,036	10,757,036	10,757,036	10,757,036	10,757,036
Historic Program Total Contribution to CPAS‡			22,239,823	40,976,658	58,403,275	74,240,339	74,240,339	74,240,339	74,240,339	74,240,339	74,240,339	74,240,339	74,240,339
Program Total CPAS	22,410,491	187,172,422	22,239,823	40,976,658	58,403,275	74,240,339	84,997,375	84,997,375	84,997,375	84,997,375	84,997,375	84,997,375	84,997,375
CY2022 Program Incremental Expiring Savings§								0	0	0	0	0	0
Historic Program Incremental Expiring Savings							0	0	0	0	0	0	0
Program Total Incremental Expiring Savings#							0	0	0	0	0	0	0

CPAS Verified Net kWh Savings													
Savings Category	Verified Gross Savings (kWh)	Lifetime Net Savings (kWh)†	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
CY2022 Program Total Contribution to CPAS	22,410,491	187,172,422	10,757,036	10,757,036	10,757,036	10,757,036	10,757,036	10,757,036	10,757,036	10,757,036	10,757,036	10,757,036	4,302,814
Historic Program Total Contribution to CPAS‡			74,240,339	74,240,339	74,240,339	74,240,339	74,240,339	74,240,339	60,896,445	40,758,415	22,807,711	6,334,826	0
Program Total CPAS	22,410,491	187,172,422	84,997,375	84,997,375	84,997,375	84,997,375	84,997,375	84,997,375	71,653,481	51,515,451	33,564,747	17,091,862	4,302,814
CY2022 Program Incremental Expiring Savings§			0	0	0	0	0	0	0	0	0	0	6,454,221
Historic Program Incremental Expiring Savings			0	0	0	0	0	0	13,343,894	20,138,030	17,950,704	16,472,885	6,334,826
Program Total Incremental Expiring Savings#			0	0	0	0	0	0	13,343,894	20,138,030	17,950,704	16,472,885	12,789,047

CPAS Verified Net kWh Savings													
Savings Category	Verified Gross Savings (kWh)	Lifetime Net Savings (kWh)†	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
CY2022 Program Total Contribution to CPAS	22,410,491	187,172,422	0	0	0	0	0	0	0	0	0	0	0
Historic Program Total Contribution to CPAS‡			0	0	0	0	0	0	0	0	0	0	0
Program Total CPAS	22,410,491	187,172,422	0	0	0	0	0	0	0	0	0	0	0
CY2022 Program Incremental Expiring Savings§			4,302,814	0	0	0	0	0	0	0	0	0	0
Historic Program Incremental Expiring Savings			0	0	0	0	0	0	0	0	0	0	0
Program Total Incremental Expiring Savings#			4,302,814	0	0	0	0	0	0	0	0	0	0

CPAS Verified Net kWh Savings													
Savings Category	Verified Gross Savings (kWh)	Lifetime Net Savings (kWh)†	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
CY2022 Program Total Contribution to CPAS	22,410,491	187,172,422					10,757,036	10,757,036	10,757,036	10,757,036	10,757,036	10,757,036	10,757,036
Historic Program Total Contribution to CPAS‡			22,239,823	40,976,658	58,403,275	74,240,339	74,240,339	74,240,339	74,240,339	74,240,339	74,240,339	74,240,339	74,240,339
Program Total CPAS	22,410,491	187,172,422	22,239,823	40,976,658	58,403,275	74,240,339	84,997,375	84,997,375	84,997,375	84,997,375	84,997,375	84,997,375	84,997,375
CY2022 Program Incremental Expiring Savings§								0	0	0	0	0	0
Historic Program Incremental Expiring Savings							0	0	0	0	0	0	0
Program Total Incremental Expiring Savings#							0	0	0	0	0	0	0

CPAS Verified Net kWh Savings													
Savings Category	Verified Gross Savings (kWh)	Lifetime Net Savings (kWh)†	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
CY2022 Program Total Contribution to CPAS	22,410,491	187,172,422	10,757,036	10,757,036	10,757,036	10,757,036	10,757,036	10,757,036	10,757,036	10,757,036	10,757,036	10,757,036	4,302,814
Historic Program Total Contribution to CPAS‡			74,240,339	74,240,339	74,240,339	74,240,339	74,240,339	74,240,339	60,896,445	40,758,415	22,807,711	6,334,826	0

Savings Category	Verified Gross Savings (kWh)	Lifetime Net Savings (kWh)†	CPAS Verified Net kWh Savings											
			2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	
Program Total CPAS	22,410,491	187,172,422	84,997,375	84,997,375	84,997,375	84,997,375	84,997,375	84,997,375	84,997,375	71,653,481	51,515,451	33,564,747	17,091,862	4,302,814
CY2022 Program Incremental Expiring Savings§			0	0	0	0	0	0	0	0	0	0	0	6,454,221
Historic Program Incremental Expiring Savings			0	0	0	0	0	0	0	13,343,894	20,138,030	17,950,704	16,472,885	6,334,826
Program Total Incremental Expiring Savings#			0	0	0	0	0	0	0	13,343,894	20,138,030	17,950,704	16,472,885	12,789,047

Savings Category	Verified Gross Savings (kWh)	Lifetime Net Savings (kWh)†	CPAS Verified Net kWh Savings											
			2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	
CY2022 Program Total Contribution to CPAS	22,410,491	187,172,422	0	0	0	0	0	0	0	0	0	0	0	0
Historic Program Total Contribution to CPAS‡			0	0	0	0	0	0	0	0	0	0	0	0
Program Total CPAS	22,410,491	187,172,422	0	0	0	0	0	0	0	0	0	0	0	0
CY2022 Program Incremental Expiring Savings§			4,302,814	0	0	0	0	0	0	0	0	0	0	0
Historic Program Incremental Expiring Savings			0	0	0	0	0	0	0	0	0	0	0	0
Program Total Incremental Expiring Savings#			4,302,814	0	0	0	0	0	0	0	0	0	0	0

† Lifetime savings are the sum of CPAS savings through the EUL.

‡ Historical savings go back to CY2018.

§ Incremental expiring savings are equal to CPAS Yn-1 - CPAS Yn.

|| Historic incremental expiring savings are equal to Historic CPAS Yn-1 – Historic CPAS Yn.

Program total incremental expiring savings are equal to current year total incremental expiring savings plus historic total incremental expiring savings.

Source: Evaluation team analysis

Table 3. CPAS – Gas

Savings Category	Verified Gross Savings (Therms)	Lifetime Net Savings (Therms)†	CPAS Verified Net Therms Savings											
			2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	
CY2022 Program Total Gas Contribution to CPAS (Therms)	8,382	70,008					4,023	4,023	4,023	4,023	4,023	4,023	4,023	4,023
CY2022 Program Total Gas Contribution to CPAS (kWh Equivalent)‡	245,683						117,928	117,928	117,928	117,928	117,928	117,928	117,928	117,928
Historic Program Total Gas Contribution to CPAS (kWh Equivalent)§			981,763	2,500,239	3,713,955	4,940,022	4,940,022	4,940,022	4,940,022	4,940,022	4,940,022	4,940,022	4,940,022	4,940,022
Program Total Gas CPAS (kWh Equivalent)	245,683	0	981,763	2,500,239	3,713,955	4,940,022	5,057,950	5,057,950	5,057,950	5,057,950	5,057,950	5,057,950	5,057,950	5,057,950
CY2022 Program Incremental Expiring Gas Savings (Therms)									0	0	0	0	0	0
CY2022 Program Incremental Expiring Gas Savings (kWh Equivalent)									0	0	0	0	0	0
Historic Program Incremental Expiring Gas Savings (kWh Equivalent)#								0	0	0	0	0	0	0
Program Total Incremental Expiring Gas Savings (kWh Equivalent)*†								0	0	0	0	0	0	0

Savings Category	Verified Gross Savings (Therms)	Lifetime Net Savings (Therms)†	CPAS Verified Net Therms Savings											
			2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	
CY2022 Program Total Gas Contribution to CPAS (Therms)	8,382	70,008	4,023	4,023	4,023	4,023	4,023	4,023	4,023	4,023	4,023	4,023	4,023	1,609
CY2022 Program Total Gas Contribution to CPAS (kWh Equivalent)‡	245,683		117,928	117,928	117,928	117,928	117,928	117,928	117,928	117,928	117,928	117,928	117,928	47,171
Historic Program Total Gas Contribution to CPAS (kWh Equivalent)§			4,940,022	4,940,022	4,940,022	4,940,022	4,940,022	4,940,022	4,350,965	3,047,174	1,711,554	490,427		0
Program Total Gas CPAS (kWh Equivalent)	245,683	0	5,057,950	5,057,950	5,057,950	5,057,950	5,057,950	5,057,950	4,468,893	3,165,102	1,829,482	608,355	47,171	
CY2022 Program Incremental Expiring Gas Savings (Therms)			0	0	0	0	0	0	0	0	0	0	0	2,414
CY2022 Program Incremental Expiring Gas Savings (kWh Equivalent)			0	0	0	0	0	0	0	0	0	0	0	70,757
Historic Program Incremental Expiring Gas Savings (kWh Equivalent)#			0	0	0	0	0	0	589,058	1,303,791	1,335,620	1,221,127	490,427	
Program Total Incremental Expiring Gas Savings (kWh Equivalent)*†			0	0	0	0	0	0	589,058	1,303,791	1,335,620	1,221,127	561,184	

Savings Category	Verified Gross Savings (Therms)	Lifetime Net Savings (Therms)†	CPAS Verified Net Therms Savings											
			2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	
CY2022 Program Total Gas Contribution to CPAS (Therms)	8,382	70,008	0	0	0	0	0	0	0	0	0	0	0	0
CY2022 Program Total Gas Contribution to CPAS (kWh Equivalent)‡	245,683		0	0	0	0	0	0	0	0	0	0	0	0
Historic Program Total Gas Contribution to CPAS (kWh Equivalent)§			0	0	0	0	0	0	0	0	0	0	0	0
Program Total Gas CPAS (kWh Equivalent)	245,683	0	0	0	0	0	0	0	0	0	0	0	0	0
CY2022 Program Incremental Expiring Gas Savings (Therms)			1,609	0	0	0	0	0	0	0	0	0	0	0
CY2022 Program Incremental Expiring Gas Savings (kWh Equivalent)			47,171	0	0	0	0	0	0	0	0	0	0	0
Historic Program Incremental Expiring Gas Savings (kWh Equivalent)#			0	0	0	0	0	0	0	0	0	0	0	0
Program Total Incremental Expiring Gas Savings (kWh Equivalent)*†			47,171	0	0	0	0	0	0	0	0	0	0	0

† Lifetime savings are the sum of CPAS savings through the EUL.

‡ kWh equivalent savings are calculated by multiplying therm savings by 29.31.

§ Historical savings go back to CY2018.

|| Incremental expiring savings are equal to CPAS Yn-1 - CPAS Yn.

Historic incremental expiring savings are equal to Historic CPAS Yn-1 – Historic CPAS Yn.

*† Program total incremental expiring savings are equal to current year total incremental expiring savings plus historic total incremental expiring savings.

Source: Evaluation team analysis

Table 4. CPAS – Total

Savings Category	Verified Gross Savings (kWh)	Lifetime Net Savings (kWh)†	CPAS Verified Net kWh Savings										
			2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
CY2022 Program Total Contribution to CPAS	22,656,175	189,224,370					10,874,964	10,874,964	10,874,964	10,874,964	10,874,964	10,874,964	10,874,964
Historic Program Total Contribution to CPAS‡			23,221,586	43,476,897	62,117,229	79,180,362	79,180,362	79,180,362	79,180,362	79,180,362	79,180,362	79,180,362	79,180,362
Program Total CPAS	22,656,175	189,224,370	23,221,586	43,476,897	62,117,229	79,180,362	90,055,326	90,055,326	90,055,326	90,055,326	90,055,326	90,055,326	90,055,326
CY2022 Program Incremental Expiring Savings§									0	0	0	0	0
Historic Program Incremental Expiring Savings								0	0	0	0	0	0
Program Total Incremental Expiring Savings#								0	0	0	0	0	0

Savings Category	Verified Gross Savings (kWh)	Lifetime Net Savings (kWh)†	CPAS Verified Net kWh Savings											
			2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	
CY2022 Program Total Contribution to CPAS	22,656,175	189,224,370	10,874,964	10,874,964	10,874,964	10,874,964	10,874,964	10,874,964	10,874,964	10,874,964	10,874,964	10,874,964	10,874,964	4,349,986
Historic Program Total Contribution to CPAS‡			79,180,362	79,180,362	79,180,362	79,180,362	79,180,362	79,180,362	79,180,362	65,247,410	43,805,589	24,519,265	6,825,253	0
Program Total CPAS	22,656,175	189,224,370	90,055,326	90,055,326	90,055,326	90,055,326	90,055,326	90,055,326	90,055,326	76,122,374	54,680,553	35,394,229	17,700,217	4,349,986
CY2022 Program Incremental Expiring Savings§			0	0	0	0	0	0	0	0	0	0	0	6,524,978
Historic Program Incremental Expiring Savings			0	0	0	0	0	0	0	13,932,952	21,441,821	19,286,324	17,694,012	6,825,253
Program Total Incremental Expiring Savings#			0	0	0	0	0	0	0	13,932,952	21,441,821	19,286,324	17,694,012	13,350,231

Savings Category	Verified Gross Savings (kWh)	Lifetime Net Savings (kWh)†	CPAS Verified Net kWh Savings											
			2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	
CY2022 Program Total Contribution to CPAS	22,656,175	189,224,370	0	0	0	0	0	0	0	0	0	0	0	0
Historic Program Total Contribution to CPAS‡			0	0	0	0	0	0	0	0	0	0	0	0
Program Total CPAS	22,656,175	189,224,370	0	0	0	0	0	0	0	0	0	0	0	0
CY2022 Program Incremental Expiring Savings§			4,349,986	0	0	0	0	0	0	0	0	0	0	0
Historic Program Incremental Expiring Savings			0	0	0	0	0	0	0	0	0	0	0	0
Program Total Incremental Expiring Savings#			4,349,986	0	0	0	0	0	0	0	0	0	0	0

† Lifetime savings are the sum of CPAS savings through the EUL.

‡ Historical savings go back to CY2018.

§ Incremental expiring savings are equal to CPAS Yn-1 - CPAS Yn.

|| Historic incremental expiring savings are equal to Historic CPAS Yn-1 – Historic CPAS Yn.

Program total incremental expiring savings are equal to current year total incremental expiring savings plus historic total incremental expiring savings.

Source: Evaluation team analysis