



ComEd New Construction – Income Eligible Program Impact Evaluation Report

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

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ComEd

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Introduction

This report presents the results of the impact evaluation of the New Construction – Income Eligible (IE) Program for the program year January 1 to December 31, 2022 (CY2022). The New Construction – IE Program offers technical assistance and incentive funding to building developers for new construction or major renovation of affordable housing, including single-family, low-rise, mid-rise, and high-rise multifamily buildings. Bundled energy conservation measures and custom or prescriptive approaches for specific building types are designed to result in significant energy savings over the current Illinois energy code. The program targets affordable housing developers and owners who are constructing housing for households with incomes at or below 80% of the area median income. The program also aims to educate housing developers on cost-effective energy efficient building practices.

The program is offered jointly to customers served by ComEd and Nicor Gas. This report presents 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 - IE 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 The electrification savings are those resulting from fuel switching measures.² Table 2 summarizes the savings achieved from income eligible participants, and Table 3 summarizes savings from non-income eligible participants. Together, they make up the total shown in Table 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	1,645,040	0.98	1,606,864	1.00	0	0	1,606,864
Electric Energy Savings - Converted from Gas§	kWh	1,261,504	1.03	1,297,780	1.00			1,297,780
Electric Energy Savings - Indirect from Fuel Switching (through Electrification)	kWh	3,390,530	1.05	3,572,849	1.00			3,572,849
Total Electric Energy Savings#	kWh	6,297,074	1.03	6,477,493	1.00	0	0	6,477,493
Secondary Water Savings	kWh	10,274	1.00	10,274	1.00	0	0	10,274
Summer Peak** Demand Savings	kW	242	0.96	232	1.00	0	0	232

* Ex ante and verified gross savings exclude gross carryover savings from CY2020 and CY2021.

† The “Verified Net Savings” in row one (Electric Energy Savings - Direct) excludes carryover savings as they do not apply to this program.

‡ 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

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.”

² The evaluation team will determine which electrification savings from fuel switching will be counted toward ComEd’s electric savings goal while producing the portfolio-wide Summary Report. According to Section 8-103B(b-27) of the Illinois Public Utilities Act, “In no event shall electrification savings counted toward each year’s applicable annual total savings requirement, as defined in paragraph (7.5) of subsection (g) of this Section, be greater than 5% per year for each year from 2022 through 2025.”

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 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

Table 2. Total Annual Incremental Electric Savings - Income Eligible

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	1,645,040	0.98	1,606,864	1.00	0	0	1,606,864
Electric Energy Savings - Converted from Gas§	kWh	1,261,504	1.03	1,297,780	1.00			1,297,780
Electric Energy Savings - Indirect from Fuel Switching (through Electrification)	kWh	3,390,530	1.05	3,572,849	1.00			3,572,849
Total Electric Energy Savings#	kWh	6,297,074	1.03	6,477,493	1.00	0	0	6,477,493
Secondary Water Savings	kWh	10,274	1.00	10,274	1.00	0	0	10,274
Summer Peak*† Demand Savings	kW	242	0.96	232	1.00	0	0	232

Footnotes are defined similarly as found in Table 1

Source: Evaluation team analysis

Table 3. Total Annual Incremental Electric Savings - Non-Income Eligible

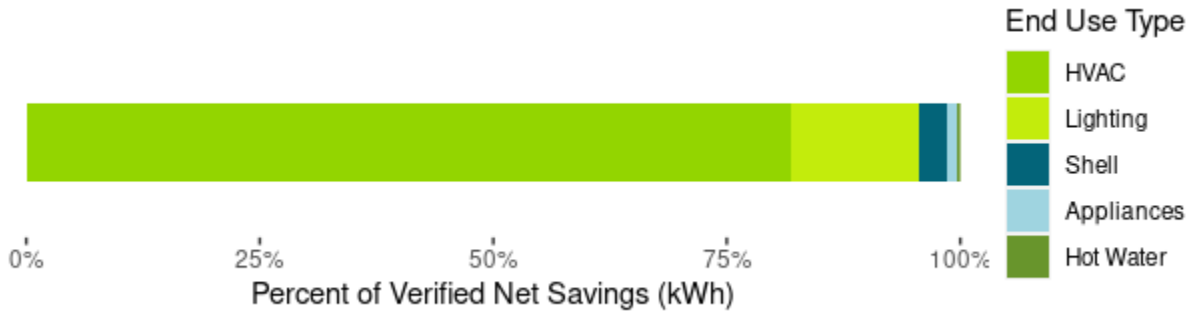
Savings Category	Units	Ex Ante Gross Savings*	Program Gross Realization Rate	Verified Gross Savings*	Program Net-to-Gross Ratio (NTG)	CY2020 Net Carryover Savings	CY2021 Net Carryover Savings	Verified Net Savings†
Electric Energy Savings - Direct‡	kWh	0		0	1.00	0	0	0
Electric Energy Savings - Converted from Gas§	kWh	0		0	1.00			0
Electric Energy Savings - Indirect from Fuel Switching (through Electrification)	kWh	0		0	1.00			0
Total Electric Energy Savings#	kWh	0		0	1.00	0	0	0
Secondary Water Savings	kWh	0		0	1.00	0	0	0
Summer Peak*† Demand Savings	kW	0		0	1.00	0	0	0

Footnotes are defined similarly as found in Table 1

Source: Evaluation team analysis

Figure 1 shows the electric energy savings by measure end use. It includes measure efficiency savings, carryover kWh, secondary water kWh, and electrification savings. It does not include gas savings converted to kWh.

Figure 1. Verified Net Savings by End Use Type – Electric



Source: Evaluation team analysis

Cumulative Persistent Annual Savings

Tables 4 to 6 show the cumulative persisting annual savings (CPAS) for the measures installed in CY2022. Table 4 shows the electric CPAS across all measures installed in 2022. Table 5 shows the gas contribution to CPAS (converted to equivalent electricity). Table 6 shows the combined savings.

Table 4. CPAS – Electric

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	5,179,713	72,171,781					5,179,713	5,179,713	5,179,713	5,179,713	5,179,713	5,179,713	5,179,713
Historic Program Total Contribution to CPAS‡			1,935,089	4,227,324	5,896,588	6,916,634	6,916,634	6,916,634	6,916,634	6,916,634	6,916,634	6,185,202	5,191,562
Program Total CPAS	5,179,713	72,171,781	1,935,089	4,227,324	5,896,588	6,916,634	12,096,347	12,096,347	12,096,347	12,096,347	12,096,347	11,364,915	10,371,275
CY2022 Program Incremental Expiring Savings§							0	0	0	0	0	0	0
Historic Program Incremental Expiring Savings							0	0	0	0	0	731,432	993,640
Program Total Incremental Expiring Savings#							0	0	0	0	0	731,432	993,640

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	5,179,713	72,171,781	5,179,713	5,149,090	5,149,090	5,127,143	5,033,587	5,027,378	3,631,477	600,588	218,866	206,276	206,276
Historic Program Total Contribution to CPAS‡			4,213,596	3,907,413	3,899,418	3,803,222	3,486,455	3,177,130	2,635,186	2,286,148	1,781,259	825,888	585,912
Program Total CPAS	5,179,713	72,171,781	9,393,309	9,056,503	9,048,508	8,930,365	8,520,042	8,204,508	6,266,663	2,886,736	2,000,125	1,032,164	792,188
CY2022 Program Incremental Expiring Savings§			0	30,623	0	21,947	93,731	6,210	1,395,900	3,030,889	381,723	12,589	0
Historic Program Incremental Expiring Savings			977,966	306,183	7,995	96,196	316,767	309,325	541,944	349,038	504,889	955,371	239,976
Program Total Incremental Expiring Savings#			977,966	336,806	7,995	118,143	410,498	315,535	1,937,844	3,379,927	886,612	967,960	239,976

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	5,179,713	72,171,781	206,276	116,338	56,028	5,664	0	0	0	0	0	0	0
Historic Program Total Contribution to CPAS‡			537,425	537,425	537,425	493,296	131,384	0	0	0	0	0	0
Program Total CPAS	5,179,713	72,171,781	743,701	653,763	593,453	498,960	131,384	0	0	0	0	0	0
CY2022 Program Incremental Expiring Savings§			0	89,938	60,310	50,364	5,664	0	0	0	0	0	0
Historic Program Incremental Expiring Savings			48,487	0	0	44,129	361,912	131,384	0	0	0	0	0
Program Total Incremental Expiring Savings#			48,487	89,938	60,310	94,493	367,576	131,384	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 5. 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)	44,278	684,539					44,278	44,278	44,278	44,278	44,278	44,278	44,278
CY2022 Program Total Gas Contribution to CPAS (kWh Equivalent)‡	1,297,780						1,297,780	1,297,780	1,297,780	1,297,780	1,297,780	1,297,780	1,297,780
Historic Program Total Gas Contribution to CPAS (kWh Equivalent)§			0	672,456	672,456	672,456	672,456	672,456	672,456	672,456	672,456	672,456	663,969
Program Total Gas CPAS (kWh Equivalent)	1,297,780	0	0	672,456	672,456	672,456	1,970,236	1,970,236	1,970,236	1,970,236	1,970,236	1,970,236	1,961,749
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	8,487
Program Total Incremental Expiring Gas Savings (kWh Equivalent)*†							0	0	0	0	0	0	8,487

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)	44,278	684,800	44,278	44,278	42,969	33,601	31,462	31,462	31,231	31,157	17,641	17,009	17,009
CY2022 Program Total Gas Contribution to CPAS (kWh Equivalent)‡	1,297,780		1,297,780	1,297,780	1,259,413	984,835	922,141	922,141	915,375	913,207	517,048	498,544	498,544
Historic Program Total Gas Contribution to CPAS (kWh Equivalent)§			587,588	587,588	587,588	15,899	0	0	0	0	0	0	0
Program Total Gas CPAS (kWh Equivalent)	1,297,780	0	1,885,368	1,885,368	1,847,001	1,000,734	922,141	922,141	915,375	913,207	517,048	498,544	498,544
CY2022 Program Incremental Expiring Gas Savings (Therms)			0	0	1,309	9,368	2,139	0	231	74	13,516	631	0
CY2022 Program Incremental Expiring Gas Savings (kWh Equivalent)			0	0	38,367	274,578	62,694	0	6,766	2,169	396,159	18,504	0
Historic Program Incremental Expiring Gas Savings (kWh Equivalent)#			76,381	0	0	571,689	15,899	0	0	0	0	0	0
Program Total Incremental Expiring Gas Savings (kWh Equivalent)*†			76,381	0	38,367	846,267	78,593	0	6,766	2,169	396,159	18,504	0

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)	44,278	684,800	17,009	10,591	3,909	991	0	0	0	0	0	0	0
CY2022 Program Total Gas Contribution to CPAS (kWh Equivalent)‡	1,297,780		498,544	310,428	114,578	29,033	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
Program Total Gas CPAS (kWh Equivalent)	1,297,780	0	498,544	310,428	114,578	29,033	0	0	0	0	0	0	0
CY2022 Program Incremental Expiring Gas Savings (Therms)			0	6,418	6,682	2,919	991	0	0	0	0	0	0
CY2022 Program Incremental Expiring Gas Savings (kWh Equivalent)			0	188,116	195,851	85,544	29,033	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
Program Total Incremental Expiring Gas Savings (kWh Equivalent)*†			0	188,116	195,851	85,544	29,033	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 6. 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	6,477,493	92,235,628					6,477,493	6,477,493	6,477,493	6,477,493	6,477,493	6,477,493	6,477,493
Historic Program Total Contribution to CPAS‡			1,935,089	4,899,780	6,569,044	7,589,090	7,589,090	7,589,090	7,589,090	7,589,090	7,589,090	6,857,658	5,855,531
Program Total CPAS	6,477,493	92,235,628	1,935,089	4,899,780	6,569,044	7,589,090	14,066,583	14,066,583	14,066,583	14,066,583	14,066,583	13,335,151	12,333,024
CY2022 Program Incremental Expiring Savings§									0	0	0	0	0
Historic Program Incremental Expiring Savings								0	0	0	0	731,432	1,002,127
Program Total Incremental Expiring Savings#								0	0	0	0	731,432	1,002,127

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	6,477,493	92,235,628	6,477,493	6,446,869	6,408,502	6,111,978	5,955,728	5,949,519	4,546,853	1,513,795	735,914	704,820	704,820
Historic Program Total Contribution to CPAS‡			4,801,184	4,495,001	4,487,006	3,819,121	3,486,455	3,177,130	2,635,186	2,286,148	1,781,259	825,888	585,912
Program Total CPAS	6,477,493	92,235,628	11,278,677	10,941,870	10,895,508	9,931,099	9,442,183	9,126,649	7,182,039	3,799,943	2,517,173	1,530,708	1,290,732
CY2022 Program Incremental Expiring Savings§			0	30,623	38,367	296,524	156,249	6,210	1,402,666	3,033,058	777,881	31,094	0
Historic Program Incremental Expiring Savings			1,054,347	306,183	7,995	667,885	332,666	309,325	541,944	349,038	504,889	955,371	239,976
Program Total Incremental Expiring Savings#			1,054,347	336,806	46,362	964,409	488,915	315,535	1,944,610	3,382,096	1,282,770	986,465	239,976

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	6,477,493	92,235,628	704,820	426,766	170,606	34,697	0	0	0	0	0	0	0	
Historic Program Total Contribution to CPAS‡			537,425	537,425	537,425	493,296	131,384	0	0	0	0	0	0	
Program Total CPAS	6,477,493	92,235,628	1,242,245	964,191	708,031	527,993	131,384	0	0	0	0	0	0	
CY2022 Program Incremental Expiring Savings§			0	278,054	256,161	135,908	34,697	0	0	0	0	0	0	
Historic Program Incremental Expiring Savings			48,487	0	0	44,129	361,912	131,384	0	0	0	0	0	
Program Total Incremental Expiring Savings#			48,487	278,054	256,161	180,037	396,609	131,384	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