



ComEd Retail Discounts 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 Retail/Online program for the program year from January 1 to December 31, 2022 (CY2022). The program was designed to increase the market penetration of energy efficient lighting and appliance measures by providing product incentives through various retail channels, recycling older inefficient appliances, and providing detail product information, including energy usage and available incentives, to influence those shopping for new appliances and/or household electronics. The program targets retail sales channels that serve ComEd residential customers both in the market rate and income qualified (incomes at or below 80% of the area median income) segments.

Program Savings Detail

Table 1 summarizes the incremental energy and demand savings the Retail/Online 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 2 summarizes the savings achieved from income eligible (IE) participants, and Table 3 summarizes savings from non-IE participants (market rate). 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	304,846,150	0.98	298,072,227	Varies	15,699,527	20,160,173	227,510,236
Electric Energy Savings - Converted from Gas§	kWh	114,855,211	1.02	116,877,209	1.00			116,357,846
Electric Energy Savings - Indirect from Fuel Switching (through Electrification)	kWh							
Total Electric Energy Savings#	kWh	419,701,361	0.99	414,949,435	Varies	15,699,527	20,160,173	343,868,083
Secondary Water Savings	kWh	126,182		126,573	0.63			79,741
Summer Peak** Demand Savings	kW			44,003	Varies	2,028	2,598	34,409

N/A = not applicable (refers to a piece of data that cannot be produced or does not apply).

* 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) includes net carryover savings from CY2020 and CY2021.

‡ 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 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.

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."

*† 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.

- 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 – IE

Savings Category	Units	Ex Ante Gross Savings*	Program Gross Realization Rate	Verified Gross Savings*	Program NTG	CY2020 Net Carryover Savings	CY2021 Net Carryover Savings	Verified Net Savings†
Electric Energy Savings - Direct‡	kWh	48,347,677	0.97	46,890,159	Varies	5,097,377	7,589,722	53,935,569
Electric Energy Savings - Converted from Gas§	kWh	43,535,871	1.04	45,082,936	1.00			45,082,936
Electric Energy Savings - Indirect from Fuel Switching (through Electrification)	kWh							
Total Electric Energy Savings#	kWh	91,883,548	1.00	91,973,096	Varies	5,097,377	7,589,722	99,018,506
Secondary Water Savings	kWh							
Summer Peak** Demand Savings	kW			7,306	Varies	654	960	8,168

Footnotes are defined similarly as found in Table 1

Source: Evaluation team analysis

Table 3. Total Annual Incremental Electric Savings – Non-IE

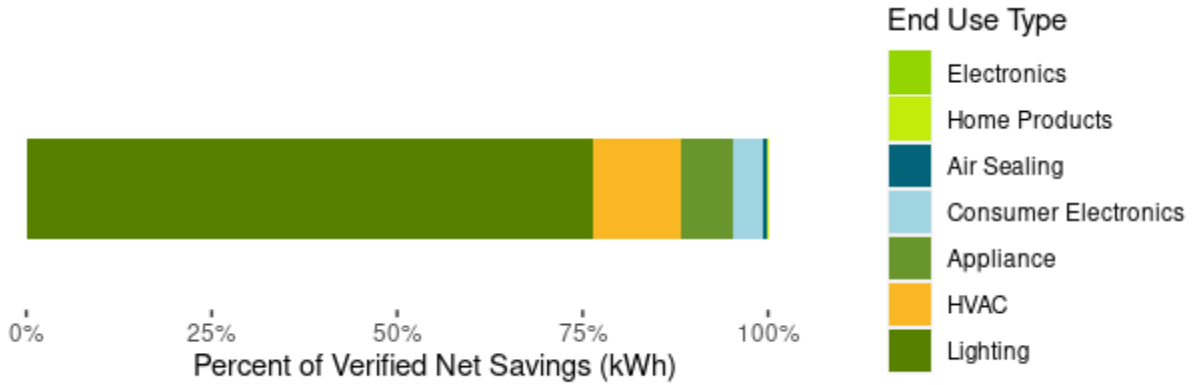
Savings Category	Units	Ex Ante Gross Savings*	Program Gross Realization Rate	Verified Gross Savings*	Program NTG	CY2020 Net Carryover Savings	CY2021 Net Carryover Savings	Verified Net Savings†
Electric Energy Savings - Direct‡	kWh	256,498,472	0.98	251,182,067	Varies	10,602,150	12,570,451	173,574,667
Electric Energy Savings - Converted from Gas§	kWh	71,319,340	1.01	71,794,272	0.99			71,274,910
Electric Energy Savings - Indirect from Fuel Switching (through Electrification)	kWh							
Total Electric Energy Savings#	kWh	327,817,812	0.98	322,759,489	Varies	10,602,150	12,570,451	244,849,577
Secondary Water Savings	kWh	126,182	1.00	126,573	0.63			79,741
Summer Peak** Demand Savings	kW			36,697	Varies	1,374	1,638	26,241

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 Persisting 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	352,570,381	1,871,978,915					227,510,236	227,510,236	227,510,236	227,510,236	158,856,642	154,591,394	153,296,160	
Historic Program Total Contribution to CPAS‡			382,319,670	656,815,817	942,574,802	1,018,494,418	1,009,780,482	992,168,166	808,460,555	706,119,231	685,856,280	635,915,212	439,325,387	
Program Total CPAS	352,570,381	1,871,978,915	382,319,670	656,815,817	942,574,802	1,018,494,418	1,237,290,719	1,219,678,402	1,035,970,791	933,629,468	844,712,922	790,506,607	592,621,547	
CY2022 Program Incremental Expiring Savings§									0	0	0	68,653,594	4,265,248	1,295,234
Historic Program Incremental Expiring Savings								8,713,936	17,612,317	183,707,611	102,341,323	20,262,951	49,941,068	196,589,825
Program Total Incremental Expiring Savings#								8,713,936	17,612,317	183,707,611	102,341,323	88,916,545	54,206,316	197,885,059

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	352,570,381	1,871,978,915	134,804,522	128,328,067	116,077,960	45,251,060	18,104,019	14,479,446	13,660,719	12,851,437	3,134,956	2,932,104	1,995,531
Historic Program Total Contribution to CPAS‡			389,082,498	273,378,002	158,304,053	126,118,803	87,149,723	70,983,072	36,601,153	2,913,743	1,523,409	192,360	192,324
Program Total CPAS	352,570,381	1,871,978,915	523,887,019	401,706,068	274,382,013	171,369,864	105,253,742	85,462,518	50,261,872	15,765,180	4,658,365	3,124,464	2,187,855
CY2022 Program Incremental Expiring Savings§			18,491,638	6,476,455	12,250,107	70,826,899	27,147,041	3,624,573	818,727	809,282	9,716,481	202,852	936,573
Historic Program Incremental Expiring Savings			50,242,890	115,704,496	115,073,949	32,185,250	38,969,080	16,166,651	34,381,919	33,687,410	1,390,334	1,331,049	36
Program Total Incremental Expiring Savings#			68,734,528	122,180,951	127,324,056	103,012,149	66,116,122	19,791,224	35,200,646	34,496,693	11,106,815	1,533,901	936,609

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	352,570,381	1,871,978,915	1,995,531	1,577,377	523	523	0	0	0	0	0	0	0
Historic Program Total Contribution to CPAS‡			90,344	51,712	28,453	0	0	0	0	0	0	0	0
Program Total CPAS	352,570,381	1,871,978,915	2,085,875	1,629,089	28,976	523	0	0	0	0	0	0	0
CY2022 Program Incremental Expiring Savings§			0	418,154	1,576,854	0	523	0	0	0	0	0	0
Historic Program Incremental Expiring Savings			101,980	38,631	23,259	28,453	0	0	0	0	0	0	0
Program Total Incremental Expiring Savings#			101,980	456,786	1,600,113	28,453	523	0	0	0	0	0	0

* 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>.

† Lifetime savings are the sum of CPAS savings through the effective useful life (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)	3,987,622	48,103,150					3,969,903	3,969,903	3,969,903	3,969,903	3,969,903	3,969,903	3,969,903
CY2022 Program Total Gas Contribution to CPAS (kWh Equivalent)‡	116,877,209						116,357,846	116,357,846	116,357,846	116,357,846	116,357,846	116,357,846	116,357,846
Historic Program Total Gas Contribution to CPAS (kWh Equivalent)§			60,598,906	176,247,714	273,018,371	439,388,860	439,388,860	439,388,860	439,388,860	439,388,860	439,388,860	439,388,860	380,970,322
Program Total Gas CPAS (kWh Equivalent)	116,877,209	0	60,598,906	176,247,714	273,018,371	439,388,860	555,746,707	555,746,707	555,746,707	555,746,707	555,746,707	555,746,707	497,328,168
CY2022 Program Incremental Expiring Gas Savings (Therms)									0	0	0	0	0
CY2022 Program Incremental Expiring Gas Savings (kWh Equivalent)									0	0	0	0	0
Historic Program Incremental Expiring Gas Savings (kWh Equivalent)#								0	0	0	0	0	58,418,539
Program Total Incremental Expiring Gas Savings (kWh Equivalent)*†								0	0	0	0	0	58,418,539

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)	3,987,622	48,103,150	3,969,903	3,969,903	3,969,903	3,969,903	512,771	512,771	512,771	482,651	482,651	482,651	482,651
CY2022 Program Total Gas Contribution to CPAS (kWh Equivalent)‡	116,877,209		116,357,846	116,357,846	116,357,846	116,357,846	15,029,322	15,029,322	15,029,322	14,146,507	14,146,507	14,146,507	14,146,507
Historic Program Total Gas Contribution to CPAS (kWh Equivalent)§			380,970,322	267,170,822	172,490,355	6,343,412	4,494,104	2,403,913	0	0	0	0	0
Program Total Gas CPAS (kWh Equivalent)	116,877,209	0	497,328,168	383,528,668	288,848,202	122,701,258	19,523,425	17,433,235	15,029,322	14,146,507	14,146,507	14,146,507	14,146,507
CY2022 Program Incremental Expiring Gas Savings (Therms)			0	0	0	0	3,457,132	0	0	30,120	0	0	0
CY2022 Program Incremental Expiring Gas Savings (kWh Equivalent)			0	0	0	0	101,328,525	0	0	882,815	0	0	0
Historic Program Incremental Expiring Gas Savings (kWh Equivalent)#			0	113,799,500	94,680,467	166,146,943	1,849,308	2,090,191	2,403,913	0	0	0	0
Program Total Incremental Expiring Gas Savings (kWh Equivalent)*†			0	113,799,500	94,680,467	166,146,943	103,177,833	2,090,191	2,403,913	882,815	0	0	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)	3,987,622	48,103,150	482,651	482,651	0	0	0	0	0	0	0	0	0
CY2022 Program Total Gas Contribution to CPAS (kWh Equivalent)‡	116,877,209		14,146,507	14,146,507	0	0	0	0	0	0	0	0	0
Historic Program Total Gas Contribution to CPAS (kWh Equivalent)§			0	0	0								
Program Total Gas CPAS (kWh Equivalent)	116,877,209	0	14,146,507	14,146,507	0	0	0	0	0	0	0	0	0
CY2022 Program Incremental Expiring Gas Savings (Therms)			0	0	482,651	0	0	0	0	0	0	0	0
CY2022 Program Incremental Expiring Gas Savings (kWh Equivalent)			0	0	14,146,507	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
Program Total Incremental Expiring Gas Savings (kWh Equivalent)*†			0	0	14,146,507	0	0	0	0	0	0	0	0

* 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>.

† 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	469,447,590	3,281,882,229					343,868,083	343,868,083	343,868,083	343,868,083	275,214,489	270,949,241	269,654,006
Historic Program Total Contribution to CPAS‡			443,124,067	833,269,023	1,215,798,665	1,457,883,279	1,449,169,285	1,431,556,968	1,247,839,800	1,145,498,478	1,125,235,527	1,075,303,572	820,295,238
Program Total CPAS	469,447,590	3,281,882,229	443,124,067	833,269,023	1,215,798,665	1,457,883,279	1,793,037,368	1,775,425,051	1,591,707,883	1,489,366,561	1,400,450,015	1,346,252,812	1,089,949,244
CY2022 Program Incremental Expiring Savings§								0	0	0	68,653,594	4,265,248	1,295,234
Historic Program Incremental Expiring Savings							8,713,994	17,612,317	183,717,168	102,341,322	20,262,951	49,931,955	255,008,334
Program Total Incremental Expiring Savings#							8,713,994	17,612,317	183,717,168	102,341,322	88,916,545	54,197,203	256,303,568

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	469,447,590	3,281,882,229	251,162,368	244,685,913	232,435,806	161,608,906	33,133,341	29,508,768	28,690,041	26,997,943	17,281,462	17,078,611	16,142,038
Historic Program Total Contribution to CPAS‡			770,051,162	540,546,382	330,791,993	132,414,731	91,597,572	73,320,808	36,454,793	2,767,383	1,396,971	192,360	192,324
Program Total CPAS	469,447,590	3,281,882,229	1,021,213,530	785,232,295	563,227,799	294,023,638	124,730,912	102,829,575	65,144,834	29,765,326	18,678,434	17,270,971	16,334,362
CY2022 Program Incremental Expiring Savings§			18,491,638	6,476,455	12,250,107	70,826,899	128,475,566	3,624,573	818,727	1,692,097	9,716,481	202,852	936,573
Historic Program Incremental Expiring Savings			50,244,076	229,504,780	209,754,389	198,377,262	40,817,160	18,276,764	36,866,015	33,687,410	1,370,411	1,204,611	36
Program Total Incremental Expiring Savings#			68,735,714	235,981,235	222,004,496	269,204,161	169,292,725	21,901,337	37,684,742	35,379,508	11,086,892	1,407,463	936,609

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	469,447,590	3,281,882,229	16,142,038	15,723,884	523	523	0	0	0	0	0	0	0
Historic Program Total Contribution to CPAS‡			90,026	51,394	28,135	0	0						
Program Total CPAS	469,447,590	3,281,882,229	16,232,064	15,775,278	28,658	523	0	0	0	0	0	0	0
CY2022 Program Incremental Expiring Savings§			0	418,154	15,723,361	0	523	0	0	0	0	0	0
Historic Program Incremental Expiring Savings			102,299	38,631	23,259	28,135	0	0	0	0	0	0	0
Program Total Incremental Expiring Savings#			102,299	456,786	15,746,620	28,135	523	0	0	0	0	0	0

* 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>.

† 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