



ComEd Small Business Program Impact Evaluation Report

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

Prepared for:

ComEd

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Introduction

This report presents the results of the impact evaluation of the Small Business program for the program year from January 1 to December 31, 2022 (CY2022). The program was designed to assist qualified ComEd private and public sector non-residential customers¹ in achieving electric energy savings. The program educates these customers about energy efficiency opportunities through no-cost onsite energy assessments conducted by authorized, specially trained Energy Efficiency Service Providers (EESPs) and installs no-cost direct install measures.² Further savings are available to participating customers through incentives of 30%-75% offered for select contractor-installed measures.³ The program also offers kit measures to all customers.⁴

Program Savings Detail

Table 1 summarizes the incremental energy and demand savings the Small Business 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.⁵

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	255,344,923	1.00	255,324,810	0.97	1,027,775	2,894,359	251,591,666
Electric Energy Savings - Converted from Gas§	kWh	24,654,333	1.00	24,571,892	0.97			23,978,712
Electric Energy Savings - Indirect from Fuel Switching (through Electrification)	kWh							
Total Electric Energy Savings#	kWh	279,999,256	1.00	279,896,702	0.97	1,027,775	2,894,359	275,570,378
Secondary Water Savings	kWh	18,518	1.00	18,519	0.97			17,486
Summer Peak** Demand Savings	kW	45,308	1.00	45,302	0.97	234	750	44,927

* 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

¹ Participants must be ComEd commercial or industrial customers with monthly peak demand levels up to 200 kW for private businesses and 400 kW for the public sector.

² No-cost direct install measures include low flow showerheads and faucet aerators, pre-rinse spray valves, power strips, and controls for novelty coolers, beverage machines, and snack machines. The program also offers kits consisting of bathroom aerators, LED Directional R/BR Lamps, LED Omnidirectional Lamps, and Smart Strips. These kits are offered to all customers, private and public.

³ Incented measures may include LED retrofits and fixtures, lighting controls, VSDs and HVAC system components, electric water heaters, refrigeration system components, commercial kitchen equipment, compressed air system measures, smart thermostats, building envelope measures.

⁴ Kit measures include bathroom aerators, LED Directional R/BR Lamps, LED Omnidirectional Lamps, and Smart Strips. There is one type of Kit available for all private and public customers, in both Distressed and non-Distressed communities.

⁵ 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.”

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.

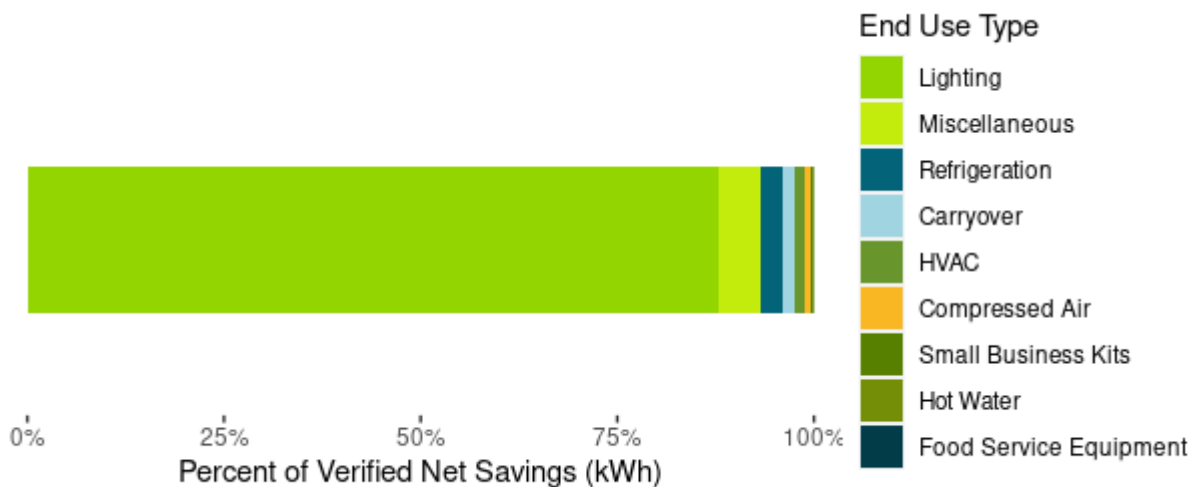
*† The Peak Demand Savings are savings occurring at coincident Summer Peak period, defined as 1:00 p.m. -5:00 p.m. Central Prevailing Time on non-holiday weekdays, June through August. This definition is in accordance with PJM requirement.

- 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

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 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

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	259,368,247	3,004,333,958					251,591,666	251,542,199	250,176,766	243,036,118	231,359,810	225,614,624	223,087,509
Historic Program Total Contribution to CPAS‡			196,963,232	329,370,837	536,386,617	751,380,221	749,123,862	737,027,299	687,373,387	675,030,897	658,640,228	650,060,575	610,708,026
Program Total CPAS	259,368,247	3,004,333,958	196,963,232	329,370,837	536,386,617	751,380,221	1,000,715,528	988,569,498	937,550,153	918,067,015	890,000,038	875,675,200	833,795,536
CY2022 Program Incremental Expiring Savings§								49,467	1,365,433	7,140,648	11,676,308	5,745,186	2,527,115
Historic Program Incremental Expiring Savings							2,256,358	12,096,563	49,653,912	12,342,490	16,390,670	8,579,652	39,352,549
Program Total Incremental Expiring Savings#							2,256,358	12,146,030	51,019,345	19,483,138	28,066,978	14,324,838	41,879,664

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	259,368,247	3,004,333,958	219,771,180	217,548,031	212,555,644	187,848,424	161,068,897	126,121,371	112,716,841	90,286,257	1,724	1,724	1,724
Historic Program Total Contribution to CPAS‡			597,355,572	466,063,584	393,246,098	313,452,085	245,398,497	126,177,788	66,174,218	82,608	82,608	71,762	57,881
Program Total CPAS	259,368,247	3,004,333,958	817,126,753	683,611,616	605,801,741	501,300,509	406,467,394	252,299,159	178,891,059	90,368,865	84,332	73,486	59,605
CY2022 Program Incremental Expiring Savings§			3,316,329	2,223,149	4,992,388	24,707,220	26,779,527	34,947,526	13,404,530	22,430,583	90,284,533	0	0
Historic Program Incremental Expiring Savings			13,352,454	131,291,988	72,817,487	79,794,013	68,053,588	119,220,709	60,003,570	66,091,610	0	10,846	13,881
Program Total Incremental Expiring Savings#			16,668,783	133,515,137	77,809,875	104,501,232	94,833,115	154,168,235	73,408,100	88,522,193	90,284,533	10,846	13,881

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	259,368,247	3,004,333,958	1,724	1,724	0	0	0	0	0	0	0	0	0
Historic Program Total Contribution to CPAS‡			37,332	0	0	0	0	0	0	0	0	0	0
Program Total CPAS	259,368,247	3,004,333,958	39,056	1,724	0	0	0	0	0	0	0	0	0
CY2022 Program Incremental Expiring Savings§			0	0	1,724	0	0	0	0	0	0	0	0
Historic Program Incremental Expiring Savings			20,549	37,332	0	0	0	0	0	0	0	0	0
Program Total Incremental Expiring Savings#			20,549	37,332	1,724	0	0	0	0	0	0	0	0

Note: Verified gross savings include gross carryover savings from CY2020 and CY2021.

† 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)	838,345	8,053,222					818,107	818,107	800,727	800,727	800,727	771,489	771,489
CY2022 Program Total Gas Contribution to CPAS (kWh Equivalent)‡	24,571,892						23,978,712	23,978,712	23,469,312	23,469,312	23,469,312	22,612,338	22,612,338
Historic Program Total Gas Contribution to CPAS (kWh Equivalent)§			9,794,779	21,307,759	33,883,907	44,421,953	43,359,627	42,828,150	42,753,971	42,490,901	41,995,506	41,783,679	35,683,903
Program Total Gas CPAS (kWh Equivalent)	24,571,892	0	9,794,779	21,307,759	33,883,907	44,421,953	67,338,340	66,806,862	66,223,283	65,960,213	65,464,818	64,396,017	58,296,241
CY2022 Program Incremental Expiring Gas Savings (Therms)								0	17,380	0	0	29,238	0
CY2022 Program Incremental Expiring Gas Savings (kWh Equivalent)								0	509,400	0	0	856,974	0
Historic Program Incremental Expiring Gas Savings (kWh Equivalent)#							1,062,325	531,478	74,179	263,070	495,396	211,827	6,099,776
Program Total Incremental Expiring Gas Savings (kWh Equivalent)*†							1,062,325	531,478	583,579	263,070	495,396	1,068,801	6,099,776

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)	838,345	8,053,222	771,489	771,489	771,489	157,382	0	0	0	0	0	0	0
CY2022 Program Total Gas Contribution to CPAS (kWh Equivalent)‡	24,571,892		22,612,338	22,612,338	22,612,338	4,612,881	0	0	0	0	0	0	0
Historic Program Total Gas Contribution to CPAS (kWh Equivalent)§			26,920,210	18,788,591	9,012,893	6,244,911	3,430,597	3,430,597	925,570	909,018	909,018	197,513	197,513
Program Total Gas CPAS (kWh Equivalent)	24,571,892	0	49,532,548	41,400,929	31,625,231	10,857,792	3,430,597	3,430,597	925,570	909,018	909,018	197,513	197,513
CY2022 Program Incremental Expiring Gas Savings (Therms)			0	0	0	614,106	157,382	0	0	0	0	0	0
CY2022 Program Incremental Expiring Gas Savings (kWh Equivalent)			0	0	0	17,999,457	4,612,881	0	0	0	0	0	0
Historic Program Incremental Expiring Gas Savings (kWh Equivalent)#			8,763,693	8,131,619	9,775,698	2,767,982	2,814,314	0	2,505,027	16,552	0	711,505	0
Program Total Incremental Expiring Gas Savings (kWh Equivalent)*†			8,763,693	8,131,619	9,775,698	20,767,439	7,427,195	0	2,505,027	16,552	0	711,505	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)	838,345	8,053,222	0	0	0	0	0	0	0	0	0	0	0
CY2022 Program Total Gas Contribution to CPAS (kWh Equivalent)‡	24,571,892		0	0	0	0	0	0	0	0	0	0	0
Historic Program Total Gas Contribution to CPAS (kWh Equivalent)§			176,463	0	0	0	0	0	0	0	0	0	0
Program Total Gas CPAS (kWh Equivalent)	24,571,892	0	176,463	0	0	0	0	0	0	0	0	0	0
CY2022 Program Incremental Expiring Gas Savings (Therms)			0	0	0	0	0	0	0	0	0	0	0
CY2022 Program Incremental Expiring Gas Savings (kWh Equivalent)			0	0	0	0	0	0	0	0	0	0	0
Historic Program Incremental Expiring Gas Savings (kWh Equivalent)#			21,050	176,463	0	0	0	0	0	0	0	0	0
Program Total Incremental Expiring Gas Savings (kWh Equivalent)*†			21,050	176,463	0	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 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	283,940,139	3,240,373,890					275,570,378	275,520,911	273,646,078	266,505,430	254,829,122	248,226,962	245,699,847
Historic Program Total Contribution to CPAS‡			206,758,011	350,678,596	570,270,523	795,802,173	792,483,490	779,855,449	730,127,359	717,521,799	700,635,733	691,844,254	646,391,930
Program Total CPAS	283,940,139	3,240,373,890	206,758,011	350,678,596	570,270,523	795,802,173	1,068,053,868	1,055,376,360	1,003,773,436	984,027,229	955,464,856	940,071,217	892,091,777
CY2022 Program Incremental Expiring Savings§								49,467	1,874,833	7,140,648	11,676,308	6,602,160	2,527,115
Historic Program Incremental Expiring Savings							3,318,684	12,628,041	49,728,090	12,605,560	16,886,065	8,791,479	45,452,325
Program Total Incremental Expiring Savings#							3,318,684	12,677,508	51,602,924	19,746,208	28,562,373	15,393,639	47,979,440

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	283,940,139	3,240,373,890	242,383,519	240,160,369	235,167,982	192,461,305	161,068,897	126,121,371	112,716,841	90,286,257	1,724	1,724	1,724
Historic Program Total Contribution to CPAS‡			624,275,782	484,852,175	402,258,991	319,696,996	248,829,094	129,608,385	67,099,788	991,626	991,626	269,275	255,394
Program Total CPAS	283,940,139	3,240,373,890	866,659,301	725,012,545	637,426,972	512,158,301	409,897,991	255,729,756	179,816,629	91,277,883	993,351	270,999	257,119
CY2022 Program Incremental Expiring Savings§			3,316,329	2,223,149	4,992,388	42,706,677	31,392,408	34,947,526	13,404,530	22,430,583	90,284,533	0	0
Historic Program Incremental Expiring Savings			22,116,147	139,423,607	82,593,184	82,561,994	70,867,902	119,220,709	62,508,597	66,108,162	0	722,351	13,881
Program Total Incremental Expiring Savings#			25,432,476	141,646,756	87,585,572	125,268,671	102,260,310	154,168,235	75,913,128	88,538,745	90,284,533	722,351	13,881

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	283,940,139	3,240,373,890	1,724	1,724	0	0	0	0	0	0	0	0	0
Historic Program Total Contribution to CPAS‡			213,795	0	0	0	0	0	0	0	0	0	0
Program Total CPAS	283,940,139	3,240,373,890	215,519	1,724	0	0	0	0	0	0	0	0	0
CY2022 Program Incremental Expiring Savings§			0	0	1,724	0	0	0	0	0	0	0	0
Historic Program Incremental Expiring Savings			41,599	213,795	0	0	0	0	0	0	0	0	0
Program Total Incremental Expiring Savings#			41,599	213,795	1,724	0	0	0	0	0	0	0	0

Note: Verified gross savings include gross carryover savings from CY2020 and CY2021.

* 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>.

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Source: Evaluation team analysis