



# ComEd Targeted Systems Program Impact Evaluation Report

Energy Efficiency/Demand Response Plan:  
Program Year 2023 (CY2023)  
(1/1/2023-12/31/2023)

Prepared for:

ComEd

## FINAL

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## Introduction

This report presents the results of the impact evaluation of the Targeted Systems program from the program year from January 1 to December 31, 2023 (CY2023).

The Targeted Systems program provides a fully funded engineering study to help optimize operations of existing building and industrial systems and identifies low-cost and no-cost measures for systems and processes. The program is also available to smaller customers, through measures in which smart meter interval usage data is used to remotely identify operational savings opportunities. The program also offers tuition-reimbursement for customers who complete the training and certification for commercial building operators. Eligible measures include low-cost energy conservation measures that have an average simple payback of 18 months, capital investments, and operational adjustments, such as optimizing operating parameters, properly matching equipment to load, and installing controls that improve system efficiency. Applicable systems include compressed air, process cooling, industrial refrigeration, building HVAC systems, water and wastewater treatment, and process efficiency for heating and cooling in production. This program targets public and private commercial and industrial customers in ComEd’s service territory. Typical participants include commercial office buildings, hospitals/health care facilities, higher education buildings, and industrial customers.

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 separate reports.

## Program Savings Detail

Table 1 summarizes the incremental energy and demand savings the Targeted Systems program achieved in CY2023. The gas or other fuel savings are only those that ComEd may be able to claim, which excludes savings the gas utilities claim.<sup>1</sup>

**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)	CY2021 Net Carryover Savings	CY2022 Net Carryover Savings	Verified Net Savings†
Electric Energy Savings - Direct‡	kWh	99,141,453	0.96	94,947,654	0.86	N/A	N/A	81,694,225
Electric Energy Savings - Converted from Other Fuel§	kWh	1,538,804	1.40	2,147,714	0.95	N/A	N/A	2,049,381
Electric Energy Savings - Electrification	kWh	0	N/A	0	N/A	N/A	N/A	0
Total Electric Energy Savings#	kWh	100,680,257	0.96	97,095,367	0.86	N/A	N/A	83,743,606
Total Electric Energy Savings Including Carryover#	kWh							
Summer Peak*† Demand Savings	kW	8,024	1.30	10,445	0.84	N/A	N/A	8,744
Summer Peak*† Demand Savings Including Carryover	kW							

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

<sup>1</sup> The evaluation will determine which other fuel 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 “Ex Ante Gross Savings” and “Verified Gross Savings” in row one (Electric Energy Savings - Direct) and row six (Summer Peak Demand Savings) exclude gross carryover savings from CY2021 and CY2022.

† The “Verified Net Savings” in row one and row six excludes carryover savings as they don’t apply to this program.

‡ The Electric Energy Savings - Direct includes primary kWh savings from efficient measures (includes efficiency savings from electrification measures but excludes the electrification savings, however there are no electrification measures in this program), 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) and/or propane savings converted to kWh by multiplying Gallons \* 26.77 (which is based on 91,333 Btu/Gallon and 3,412 Btu/kWh). The evaluation team will determine which other fuel savings will be converted to kWh and counted toward ComEd’s electric savings goal while producing the portfolio-wide Summary Report.

|| Electrification savings excluding direct efficiency savings. Calculated from net electric savings from increase in kWh consumption and decrease in gas consumption from electrification (kWh equivalent).

# Total Electric Energy Savings is the sum of the Electric Energy Savings - Direct, the Electric Energy Savings Converted from Other Fuel, and the Electrification Savings. Note: This row does not include carryover gross savings, but the next one includes carryover verified gross savings, for the purpose of recalculating the gross realization rate resulting from including carryover savings (same for the peak demand savings).

\*† The Peak Demand Savings are savings occurring at coincident Summer Peak period, defined as 1:00-5:00 PM 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-2023>. The NTG ratio for eligible business customers in disadvantaged neighborhoods is set to 1.00 as per the “NTG Ratio for Disadvantaged Areas” policy.<sup>2</sup>

Source: *Evaluation team analysis*

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<sup>2</sup> Illinois Energy Efficiency Policy Manual Version 3.0, Section 7.4, available at <https://www.ilsag.info/policy/>

## Cumulative Persisting Annual Savings

Table 2 to Table 4 show the cumulative persisting annual savings (CPAS) for the measures installed in CY2023. The electric CPAS across all measures installed in 2023 is shown in Table 2. The gas and other fuel contribution to CPAS (converted to equivalent electricity) are shown in Table 3. The combined savings are shown in Table 4.

**Table 2. CPAS – Electric**

Savings Category	Verified Gross Savings (kWh)	Lifetime Net Savings (kWh) <sup>†</sup>	CPAS Verified Net kWh Savings											
			2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	
CY2023 Program Total Contribution to CPAS	94,947,654	617,059,570							81,694,225	81,694,225	81,694,225	59,847,089	59,003,949	58,812,562
Historic Program Total Contribution to CPAS <sup>‡</sup>			60,659,142	106,764,200	193,396,065	265,339,807	355,484,339	325,897,292	309,298,338	259,561,628	239,774,820	208,407,811	151,097,837	
Program Total CPAS			60,659,142	106,764,200	193,396,065	265,339,807	355,484,339	407,591,518	390,992,563	341,255,853	299,621,909	267,411,761	209,910,399	
CY2023 Program Incremental Expiring Savings <sup>§</sup>									0	0	21,847,137	843,139	191,388	
Historic Program Incremental Expiring Savings <sup>  </sup>									29,587,047	16,598,955	49,736,710	19,786,807	31,367,009	57,309,974
Program Total Incremental Expiring Savings <sup>#</sup>									29,587,047	16,598,955	49,736,710	41,633,944	32,210,148	57,501,362

  

Savings Category	Verified Gross Savings (kWh)	Lifetime Net Savings (kWh) <sup>†</sup>	CPAS Verified Net kWh Savings										
			2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
CY2023 Program Total Contribution to CPAS	94,947,654	617,059,570	58,812,562	40,801,646	25,847,257	14,943,558	14,927,272	14,927,272	14,927,272	1,905,022	1,905,022	664,552	664,552
Historic Program Total Contribution to CPAS <sup>‡</sup>			96,919,045	69,674,379	51,107,528	51,067,525	30,888,030	19,415,769	6,146,116	5,729,249	4,302,225	3,792,077	3,524,382
Program Total CPAS			155,731,607	110,476,025	76,954,784	66,011,083	45,815,301	34,343,041	21,073,387	7,634,271	6,207,247	4,456,629	4,188,934
CY2023 Program Incremental Expiring Savings <sup>§</sup>			0	18,010,915	14,954,390	10,903,698	16,287	0	0	13,022,249	0	1,240,471	0
Historic Program Incremental Expiring Savings <sup>  </sup>			54,178,792	27,244,666	18,566,851	40,003	20,179,495	11,472,260	13,269,654	416,867	1,427,024	510,148	267,695
Program Total Incremental Expiring Savings <sup>#</sup>			54,178,792	45,255,581	33,521,241	10,943,701	20,195,782	11,472,260	13,269,654	13,439,116	1,427,024	1,750,618	267,695

  

Savings Category	Verified Gross Savings (kWh)	Lifetime Net Savings (kWh) <sup>†</sup>	CPAS Verified Net kWh Savings										
			2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
CY2023 Program Total Contribution to CPAS	94,947,654	617,059,570	664,552	664,552	664,552	664,552	664,552	664,552	0	0	0	0	0
Historic Program Total Contribution to CPAS <sup>‡</sup>			3,361,212	1,385,445	1,301,241	649,913	560,679	0	0	0	0	0	0
Program Total CPAS			4,025,763	2,049,997	1,965,792	1,314,464	1,225,231	664,552	0	0	0	0	0
CY2023 Program Incremental Expiring Savings <sup>§</sup>			0	0	0	0	0	0	664,552	0	0	0	0
Historic Program Incremental Expiring Savings <sup>  </sup>			163,170	1,975,767	84,204	651,328	89,233	560,679	0	0	0	0	0
Program Total Incremental Expiring Savings <sup>#</sup>			163,170	1,975,767	84,204	651,328	89,233	560,679	664,552	0	0	0	0

<sup>†</sup> Lifetime savings are the sum of CPAS savings through the EUL.

<sup>‡</sup> Historical savings go back to CY2018.

<sup>§</sup> Incremental expiring savings are equal to CPAS Y<sub>n-1</sub> - CPAS Y<sub>n</sub>.

<sup>||</sup> Historic incremental expiring savings are equal to Historic CPAS Y<sub>n-1</sub> – Historic CPAS Y<sub>n</sub>.

<sup>#</sup> 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 – Other Fuel (Gas + Propane)**

Savings Category	Verified Gross Savings (Therms)	Lifetime Net Savings <sup>†</sup>	CPAS Verified Net Therms Savings											
			2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	
CY2023 Program Total Other Fuel Contribution to CPAS (Therms)	73,276	612,083							69,921	69,921	69,921	69,921	62,630	62,630
CY2023 Program Total Other Fuel Contribution to CPAS (kWh Equivalent) <sup>‡</sup>	2,147,714	17,940,154							2,049,381	2,049,381	2,049,381	2,049,381	1,835,671	1,835,671
Historic Program Total Other Fuel Contribution to CPAS (kWh Equivalent) <sup>§</sup>			2,907,030	3,986,674	7,278,229	9,167,511	15,247,071	15,247,071	15,247,071	13,793,556	12,140,603	11,276,888	9,669,037	
Program Total Other Fuel CPAS (kWh Equivalent)			2,907,030	3,986,674	7,278,229	9,167,511	15,247,071	17,296,452	17,296,452	15,842,937	14,189,984	13,112,559	11,504,708	
CY2023 Program Incremental Expiring Other Fuel Savings (Therms)									0	0	0	7,291	0	
CY2023 Program Incremental Expiring Other Fuel Savings (kWh Equivalent) <sup>  </sup>									0	0	0	213,710	0	
Historic Program Incremental Expiring Other Fuel Savings (kWh Equivalent) <sup>#</sup>									0	0	1,453,515	1,652,952	863,715	1,607,851
Program Total Incremental Expiring Other Fuel Savings (kWh Equivalent) <sup>*†</sup>									0	0	1,453,515	1,652,952	1,077,425	1,607,851

  

Savings Category	Verified Gross Savings (Therms)	Lifetime Net Savings <sup>†</sup>	CPAS Verified Net Therms Savings										
			2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
CY2023 Program Total Other Fuel Contribution to CPAS (Therms)	73,276	612,083	62,630	62,630	41,605	10,069	10,069	10,069	10,069	0	0	0	0
CY2023 Program Total Other Fuel Contribution to CPAS (kWh Equivalent) <sup>‡</sup>	2,147,714	17,940,154	1,835,671	1,835,671	1,219,452	295,123	295,123	295,123	295,123	0	0	0	0
Historic Program Total Other Fuel Contribution to CPAS (kWh Equivalent) <sup>§</sup>			6,879,639	3,585,808	275,414	275,414	275,414	275,414	0	0	0	0	0
Program Total Other Fuel CPAS (kWh Equivalent)			8,715,310	5,421,479	1,494,866	570,537	570,537	570,537	295,123	0	0	0	0

Savings Category	Verified Gross Savings (Therms)	Lifetime Net Savings†	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
CY2023 Program Incremental Expiring Other Fuel Savings (Therms)			0	0	21,024	31,536	0	0	0	10,069	0	0	0
CY2023 Program Incremental Expiring Other Fuel Savings (kWh Equivalent)			0	0	616,219	924,329	0	0	0	295,123	0	0	0
Historic Program Incremental Expiring Other Fuel Savings (kWh Equivalent)#			2,789,398	3,293,831	3,310,394	0	0	0	275,414	0	0	0	0
Program Total Incremental Expiring Other Fuel Savings (kWh Equivalent)*†			2,789,398	3,293,831	3,926,613	924,329	0	0	275,414	295,123	0	0	0

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

‡ Fossil fuel savings (from natural gas, propane, etc.) are reported in therms. kWh equivalent savings are calculated by multiplying therms 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
CY2023 Program Total Contribution to CPAS	97,095,367	634,999,723						83,743,606	83,743,606	83,743,606	61,896,470	60,839,620	60,648,233
Historic Program Total Contribution to CPAS‡			63,566,172	110,750,874	200,674,295	274,507,318	370,731,410	341,144,363	324,545,408	273,355,183	251,915,424	219,684,700	160,766,874
Program Total CPAS			63,566,172	110,750,874	200,674,295	274,507,318	370,731,410	424,887,969	408,289,015	357,098,790	313,811,893	280,524,320	221,415,107
CY2023 Program Incremental Expiring Savings§									0	0	21,847,137	1,056,849	191,388
Historic Program Incremental Expiring Savings								29,587,047	16,598,955	51,190,225	21,439,760	32,230,724	58,917,825
Program Total Incremental Expiring Savings#								29,587,047	16,598,955	51,190,225	43,286,896	33,287,574	59,109,213

Savings Category	Verified Gross Savings (kWh)	Lifetime Net Savings (kWh)†	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
			CY2023 Program Total Contribution to CPAS	97,095,367	634,999,723	60,648,233	42,637,317	27,066,709	15,238,682	15,222,395	15,222,395	1,905,022	1,905,022
Historic Program Total Contribution to CPAS‡			103,798,684	73,260,187	51,382,942	51,342,938	31,163,443	19,691,183	6,146,116	5,729,249	4,302,225	3,792,077	3,524,382
Program Total CPAS			164,446,916	115,897,504	78,449,650	66,581,620	46,385,838	34,913,578	21,368,510	7,634,271	6,207,247	4,456,629	4,188,934
CY2023 Program Incremental Expiring Savings§			0	18,010,915	15,570,609	11,828,027	16,287	0	0	13,317,373	0	1,240,471	0
Historic Program Incremental Expiring Savings			56,968,191	30,538,497	21,877,245	40,003	20,179,495	11,472,260	13,545,068	416,867	1,427,024	510,148	267,695
Program Total Incremental Expiring Savings#			56,968,191	48,549,412	37,447,854	11,868,030	20,195,782	11,472,260	13,545,068	13,734,239	1,427,024	1,750,618	267,695

Savings Category	Verified Gross Savings (kWh)	Lifetime Net Savings (kWh)†	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
			CY2023 Program Total Contribution to CPAS	97,095,367	634,999,723	664,552	664,552	664,552	664,552	664,552	664,552	0	0
Historic Program Total Contribution to CPAS‡			3,361,212	1,385,445	1,301,241	649,913	560,679	0	0	0	0	0	
Program Total CPAS			4,025,763	2,049,997	1,965,792	1,314,464	1,225,231	664,552	0	0	0	0	
CY2023 Program Incremental Expiring Savings§			0	0	0	0	0	0	664,552	0	0	0	
Historic Program Incremental Expiring Savings			163,170	1,975,767	84,204	651,328	89,233	560,679	0	0	0	0	
Program Total Incremental Expiring Savings#			163,170	1,975,767	84,204	651,328	89,233	560,679	664,552	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